

# HER MARKS, A MEASURE

Aura Satz

FRIDMAN GALLERY

## ***Aura Satz: Look. Look again.***

Justine Ludwig

Aura Satz's projects *Between the Bullet and the Hole* and *Her Luminous Distance* explore the role of women's labor in the history of ballistics and astronomy. In both fields, women made significant contributions to observation, data collection, and computation, yet they have been excluded from the prevailing history of these scientific advancements. Satz confronts this oversight by shifting attention to the underlying untold narrative. The artist's revisionist history does not follow a didactic structure, but rather, is frenetic—quickly shifting between disparate images and data sets. The story behind each piece is reiterated in the technology used to transmit it—the computer and the PROBLICOM (Projector Blink Comparator).

*Between the Bullet and the Hole* examines the elusive and complex effects of war on increasing women's roles in ballistic research and early computing. The film combines new and archival high-speed bullet photography, schlieren and electric spark imagery, bullet sound wave documentation, forensic ballistic photography, slide rulers, punch cards, and computer diagrams. Like a frantic animation storyboard, *Between the Bullet and the Hole* explores the flickering space between the frames. This format echoes the main task of the women studying ballistics in World War II, the construction or estimation of missing data using only two known data points, called interpolation. The film unpacks this gap, inviting interrogation. It questions how we interpolate or construct the gaps between bullet and hole, perpetrator and victim, presence and absence.

*Between the Bullet and the Hole* places narrative primacy on advancement—both the advancement of women and that of technology. The involvement of women workers in munitions and weapons factories during WWI was a contributing factor in their gaining the right to vote. During WWII, women played an integral role in building the foundation of early computing, especially the ENIAC (Electronic Numerical Integrator and Computer), which came out of the United States Army's Ballistic Research Laboratory. Fran Bilas, Betty Jennings, Ruth Lichterman, Kay McNulty, Betty Snyder, and Marlyn Wescoff were all female engineers selected to work on the ENIAC project. Occupying positions left vacant

by men now at war, these women had previously worked as “human computers,” calculating ballistic tables. Prior to 1945 “computer” referred to a person, usually a woman, who did mathematic computation. Following lines of inquiry established in the film, the need to optimize acts of war led to some of the greatest advancements in both women’s rights and in information technology. Violence begets progress.

Auditory cues play an important role in Satz’s work. In the past, she has created works addressing the visual manifestation of sound. *Vocal Flame* uses a Ruben’s Tube to visualize voice-over as a wall of undulating flames. *Sound Seam* posits the unheard sounds inscribed within surfaces, especially the human body. Electronic musician, Scanner, scores *Between the Bullet and the Hole* with driving mechanical tones paired with the film’s rapid flashing images. As if manifesting physically, each beat feels like a puncture. The soundtrack is aggressive,

preventing the content from having a solely scientific reading.

Two adjacent, free-hanging lenticular prints lend further context to the film. They face each other and in order to view them, you must stand in between the two. These doubled-up images each show a hole and the bullet that produced it, inside a circular frame recalling the perspective of a scope. This positioning implicates the viewer and simultaneously raises the question of responsibility. Positioned between the bullet and the hole, you are witness, killer, and casualty.

*Her Luminous Distance* is a slide-based installation featuring the PROBLICOM (Projector Blink Comparator). Invented by amateur astronomer Ben Mayer, this device uses two juxtaposed slide projectors and a rotating disc to alternately obscure the images at a stroboscopic pace. By switching

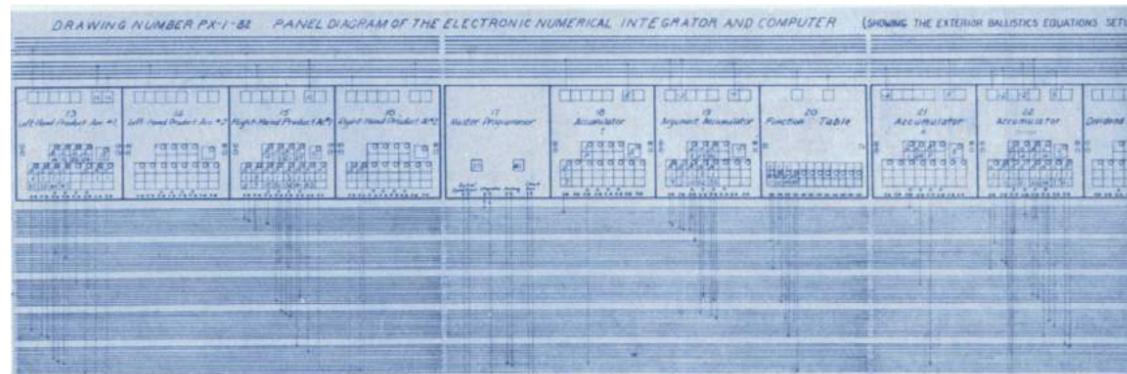
between two photographic plates, astronomers can discern subtle pattern differences as light blinks back and forth between the two. The piece’s accompanying binaural soundtrack is a pulsing rhythmic drone, which plays on the perception of patterns.

*Her Luminous Distance* honors the lesser-known women who contributed to important astronomical discoveries. In particular, it illuminates those who, like in *Between the Bullet and the Hole*, were known as “human computers.” Employed by Harvard University, these women engaged in painstaking astronomical observation and classification. This installation was developed from research on the pioneering deaf astronomer Henrietta Swan Leavitt. In her extensive studies of variable stars, Leavitt discovered the period-luminosity relationship, which ultimately helped calibrate a method to determine the size of our universe. The blinking slide

sequence includes images drawn from Leavitt’s original annotated photographic plates of variable stars, archival images from the “human computers” workplace, and a series of images of craters on the moon named after women astronomers.

Satz is committed to making visible that which typically goes unseen. In these projects, attention is placed on the in-between moments—when images flash between one another or hole punches are brought into focus. For *Between the Bullet and the Hole* and *Her Luminous Distance*, the interstices are of particular importance. In both works, the women featured are calculating the void between two known points. Satz presents information that has gone missing between the event and the present. She refocuses history, bringing into question that which we take for granted.

Panel diagram of the ENIAC, featured in *‘Between the Bullet and the Hole’*, 2015



*Her Luminous Distance*, 2014  
 Problicom shutter device, automated slide projectors,  
 MP3 player, headphones, 13 mins  
*They used to Call it the Moon*, 2014  
 Baltic, Newcastle  
 Installation View



Justine Ludwig is the Director of Exhibitions/ Senior Curator at Dallas Contemporary. She is the curator of Aura Satz’s exhibition *Her Marks, A Measure* which ran from January to March 2016 at Dallas Contemporary. In recent years she has curated exhibitions at the Contemporary Arts Center in Cincinnati, the Tufts University Art Gallery, and the Museum of Modern Art in Rio de Janeiro. Her research interests include memory, new media, architecture, economics, and the aesthetics of globalization. Ludwig holds an MA in Global Arts from Goldsmiths University of London.

## ***Who Counts/What is Counted***

Erika Balsom

The history of media is the history of the productive impossibility of capturing what exists.

– John Durham Peters

The aesthetic device of the flicker has historically been understood as an instance of film reflexively turning in on itself. In the work of Peter Kubelka, Tony Conrad, or Paul Sharits, the flicker is elemental, a medium-specific manifestation of the articulation of frames on the film strip. Closely tied to anti-illusionism, it acts directly on the body and propels one to encounter not a virtual image, but light, darkness, machine.

Aura Satz reminds us that this is not the only flicker. *Her Luminous Distance* (2014) and *Between the Bullet and the Hole* (2015) suggest that a different deployment of discontinuous, metric luminosity is possible, one that opens onto the intersecting histories of gender, technology, and labour. In these works, the flicker persists as a compositional principle, but the modernist materialism of the technical support gives way to a materialism of traces. Traces of the stars, of bullets and bullet holes, are compared through binary alternation to excavate techniques by which we measure and manage our world. Satz's rearticulation of the flicker has nothing to do with the filmic substrate – indeed, neither work is made on film. Rather, she transforms this device, so closely aligned with the photochemical, into a figuration of the discrete logic of the digital.

Her flicker figures forth the digital not as a particular set of technologies but as a logic that stands in opposition to the continuity of analogue recording. It points to an inherently lossy operation of quantization – of sampling – that attempts to capture, compress, and render intelligible the intractable real. Satz relinquishes the illusory flow of movement upon which the pleasures of cinema depend in favour of discontinuous segmentation, bringing still images into fitful collision through the vehicle of montage. The rapid throbbing of abstract fields of light familiar from flickers past slows to a rhythmic sequencing of archival images that accumulate like so many on/off pulses. Now present, now absent, now present again, alongside their phenomenological force these intermittent images demand

to be read – for their similarities as much as their differences, for what they render visible as much as what they occlude.

*Her Luminous Distance* takes up the work of astronomer Henrietta Leavitt, who from 1893 worked at the Harvard College Observatory as a “computer,” tasked with measuring the brightness of stars using a device called a blink comparator that enables one to discern small differences between two photographic plates by alternating them in quick succession. The blink comparator reduces the complexity of the astral plane to a binary sequence in order to measure and manage. Satz exploits the visual possibilities of this apparatus, using a rotating disk placed in front of two slide projectors to stroboscopically animate Leavitt’s annotated photographs, portraits of the Harvard human computers, astronomers such as Maria Mitchell, and images of moon craters named after female astronomers.

Satz is most certainly engaged here in a feminist work of revisionist historiography, recovering traces of largely forgotten labour as a challenge to dominant narratives of technological development and their gender biases. But her engagement with the binary form of the blink comparator matters, too: she peers back at the nineteenth century from our networked present, finding there human “computers” who use an apparatus of capture and quantification that shares a logic with those media that we so often, yet so unsoundly, call “new” while vastly predating them. Through the binary machine of the blink comparator, Satz makes a media-archaeological claim: the digital is not the property of a particular technological formation, a relative novelty, but a formal structure of conceptualization with a much longer history, one that is predicated on the discrete

sampling of the continuities of the world so as to facilitate intelligibility, management, and control. The digital is not just laptops, JPEGs, or the internet; it is a logic of rationalization already there in the nineteenth-century activities of women who set out to measure the seemingly unmeasurable, the stars.

The challenges of measurement are most pronounced at the extremes, whether in the very big and slow or in the very small and fast. Whereas *Her Luminous Distance* charted the vastness of the heavens, *Between the Bullet and the Hole* leaps to the split-second nanoscopes of ballistics research, a realm that – despite the emphatic shift of scale – similarly evades the unaided eye and thus relies on technologically mediated legibility. The role of women within a nascent control society of quantified tracking remains central, with Satz returning to the work of “human computers,” the early days of data processing, and the formal vocabulary of on/off alternations proper to the blink comparator. Yet *Between the Bullet and the Hole* develops these concerns differently than *Her Luminous Distance*, extending them into a biopolitical field in which human beings become targets, whether of guns or of data collection. A nervous soundtrack by the electronic musician Scanner accompanies scientific images of ballistics trajectories and points of impact, while the holes of census punch cards form graphic matches with bullet holes, joining together two very different means of managing life. In a shared history of technology, the literal violence of the gun meets the conceptual violence of the quantitative administration of the social field.

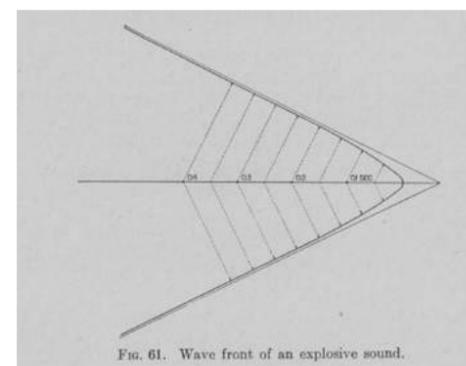
*Between the Bullet and the Hole* continues the artist’s interest in recovering from invisibility forms of women’s labour that made the world newly visible



*Between the Bullet and the Hole*, 2015  
HD film, 12 mins  
20th Biennale of Sydney, 2016  
Installation View

and knowable. This is not, however, its only play of presence and absence. In this film about bullets and guns, there are no scenes of violence. The whole field of power and force that takes shape around the instrument of the gun, exceeding its depicted scientific functioning, remains strategically absent. As the words “Who counts/what is counted” flash onscreen, Satz reminds us that representation cuts through the flows of existence in often violent ways, producing an inevitable remainder. What is present will always be haunted by what remains out of frame; here, this is indexed by the conspicuous lack of messy, maimed bodies. *Between the Bullet and the Hole* explores the history of ballistics research but also finds within it a metaphor for the danger that inheres in forms of conceptualization that privilege quantity rather than quality. The sharp divide between “on” and “off” may hold true for electronic pulses, but it effects a brutalizing reduction when taken as a heuristic through which to approach the world. In any digital system, there will be loss: data that will not be captured, lives that will not be represented. Between the bullet and the hole lies this interval, a space of elusiveness and disappearance that demands both an ethics and a politics.

Film still, *‘Between the Bullet and the Hole’*, 2015



In its refusal of the flow of images and in concert with its archival content, Satz’s flicker incessantly underlines this gap within the visible, a gap too often neglected. Alongside their revaluation of women’s overlooked contributions to the history of technology – itself a potent example of how and why phenomena drop out of representation – these works are speculative archaeologies of our present. At a time when the ability to assign value seems inextricably and tragically tied to a need to *measure* value, Satz asks us to think expansively about what is at stake in our drive to quantify the world. Who

counts? And what is counted? By taking the interval as the cornerstone of her visual language, Satz ensures that the absences between points of capture remain felt, persisting as a call for untameable quality.

Erika Balsom is senior lecturer in Film Studies and Liberal Arts at King's College London, specializing in the study of the moving image in art. She is the author of *Exhibiting Cinema in Contemporary Art* (2013) and the co-editor of *Documentary Across Disciplines* (2016). Her next book, *After Uniqueness: A History of Film and Video Art in Circulation*, is forthcoming from Columbia University Press in 2017. She is a frequent contributor to *Artforum* and *Sight and Sound*, and has published widely in academic journals, including *Screen*, *Discourse*, and *Cinema Journal*.

35mm slide from *'Her Luminous Distance'*, 2014



## ***Between Flesh and Bone: Women, Art and Revolution!***

Omar Kholeif

I have withered within me all human hope...I have called for executioners; I want to perish chewing on their gun butts.  
- Arthur Rimbaud<sup>1</sup>

It was me and a gun and a man on my back  
And I sang holy holy as he buttoned down his pants  
But I haven't seen Barbados so I must get out of this.  
- Tori Amos<sup>2</sup>

We are not interested in the fact that the brain has the consistency of cold porridge.  
- Alan Turing<sup>3</sup>

I sit here in my hotel room in the Mid Western city of Detroit unable to sleep at midnight. The sound of a detonator emerges; it re-surfaces again. I spent my teenage years between Saudi Arabia and Egypt, the sound of a gunshot, or indeed a bomb in those years would resemble little more than the sound of fireworks on the 4<sup>th</sup> of July here in the United States. But this was different. This was the summer of 2016 and the residual effect of such a sound had become synonymous with a kind of prejudiced gun violence that had rarely been seen since the Rodney King riots of 1992. I lunged to the window to look outside before a speaker in my room went off announcing instructions: we were to be evacuated.

I am escorted by a group of burly men who inform me that the situation was not gun violence but an accidental underground explosion. I sit, with the hundreds of doe-eyed tourists who have come here to explore the hallowed and hollowed ruin-porn of a city that was once at the heart of the American dream. This is mere weeks after a mass shooting at the Pulse Gay Night Club in Orlando, Florida was carried out by 29-year old Afghani-American, Omar Mateen, killing more than fifty people and injuring many more. In the ensuing media, Mateen's gun was to personify an object of phallic destruction against the effeminate queer universe embodied within the nightclub. Mateen, who may have been a repressed homosexual, was potentially mutilating his own desires as well as anyone else's. As the days and weeks went by, one was to become witness to a circuitous loop of violence –shootings continued from Louisiana to Minnesota, the subjects often

being African-American men, the shooters often Caucasian males in positions of power.

To think of gun violence as distinctly synonymous with male enactors and their bodies is not uncommon. From popular culture action movies such as the *Terminator* film series to *Blade Runner*, the gun and its potential to wound a skin is often believed to be an object attractive to men – their libidinal, testosterone-fuelled desires at once fulfilled. The artist Aura Satz, however, reveals something all together different in her beautifully rendered film *Between the Bullet and the Hole* (2015). This work tells the story of women and their role in the development of ballistics research and computer science.

The film, a meticulously composed single-channel piece, begins with a seemingly banal set of facts about the introduction of punch cards as a form of data capture and surveillance. Yet pause for a second and a rickety, electronic buzz starts to pierce through the screen: is this hole an allegory, a euphemism for the fleshy skin that supplies the bullet with the target for an exit wound? These rounded edges of paper merge with archival images of ballistics; sped up, the image begins to quiver – appearing and disappearing at rapid pace while the soundtrack by Scanner begins to suffocate the sonic diegetic environment of the screen as it crescendos.

Images float into each other: are we looking at a crater, a wound, or a piece of metal? The violent past or the potentially liberating future: A future freed from the rights of citizens to bear arms? The ding of bells melodically unfold in tandem: we see unusual substances swoosh: gunpowder, gunmetal, an adrenaline-inducing drug, is this cocaine? The

metal shield darkens, and appears marred, the soundtrack zings into a screechy motion.

These high-speed photographs of ballistic testing are juxtaposed against images of punch-cards, graphic firing tables, computer diagrams and photographs that explore women and their task of studying ballistics, or interpolation, during World War Two. By laying these parallel histories side by side: the guttural orifice of a piece of metal punctured by a bullet alongside the punch-cards of data, Satz is in turn proposing a re-thinking of women's role in the history of violence. Indeed, her film seeks to interrogate the gaps between the proverbial 'bullet' and 'hole', begging the question, who are the perpetrators of gun violence not only historically, but also in this day and age?

Is the female figure to be reduced to that of the victim, as I have invoked in the lyrics from Tori Amos's 'Me and a Gun', a song that quietly sought to reclaim her violent rape at gunpoint? Or rather, are we to invoke scientist Alan Turing's words that the material mind (our brains) is the most fragile of substances, so readily collapsible that our nervous system can so easily surrender from the simple blast of a rounded metal form into the human head? It does not matter who the perpetrator may be.

Satz's explorations in music and computing form the backbone of a practice which has sought to study and deconstruct the history of electronic music and its relationship to the female body. Arguably, a field largely dominated by male figures in popular consciousness; to think of ballistics and contemporary art, one cannot help but invoke Ed Ruscha's epic gunpowder ribbon text drawings or more recent works by the Vietnamese art collective,



*Between the Bullet and the Hole*, 2015  
HD film, 12mins  
Film Still

The Propeller Group. The latter are known for their major project, *The AK-47 vs. The M16*, (2015). Here, the artists are found testing the most common types of bullets used in warfare between the Western and Eastern blocs, and shooting them through ballistics gel. The result is an illustration of the splintering effects that such guns play on the human body. Presented as a series of sculptures, these transparent shaped gel cubes suspend this act of violence into thin-air.

Within this vein, one can also think of the work of the British-Lebanese artist Lawrence Abu Hamdan and his 2016 installation, *Earshot*, an acoustic and visual examination into the death of two Palestinian teenagers killed by Israeli Defence Forces. Using deconstructive acoustic analysis, Abu Hamdan reveals the reality of the events surrounding these elusive murders. This fine line of subjectivity is one that Satz continually returns to in *Between the Bullet and the Hole*: were women slaves to the

factory of violence or were they complicit culprits in the violence wielded by Britain and the USA that continues to this day? And if so, should we consider this a revolutionary act of liberation from male-associated dominance or one of entrapped ensnaring: The post-capitalist regime's dependence on violence as a pornographic sport for consumption? Satz leaves this liminal space clear for the viewer to make their own possible deductions, about women and their role in our most violent of revolutions.

<sup>1</sup>Arthur Rimbaud (1873) *A Season in Hill*, P1.

<sup>2</sup>Tori Amos (1991) from *Little Earthquakes* (Epic Records).

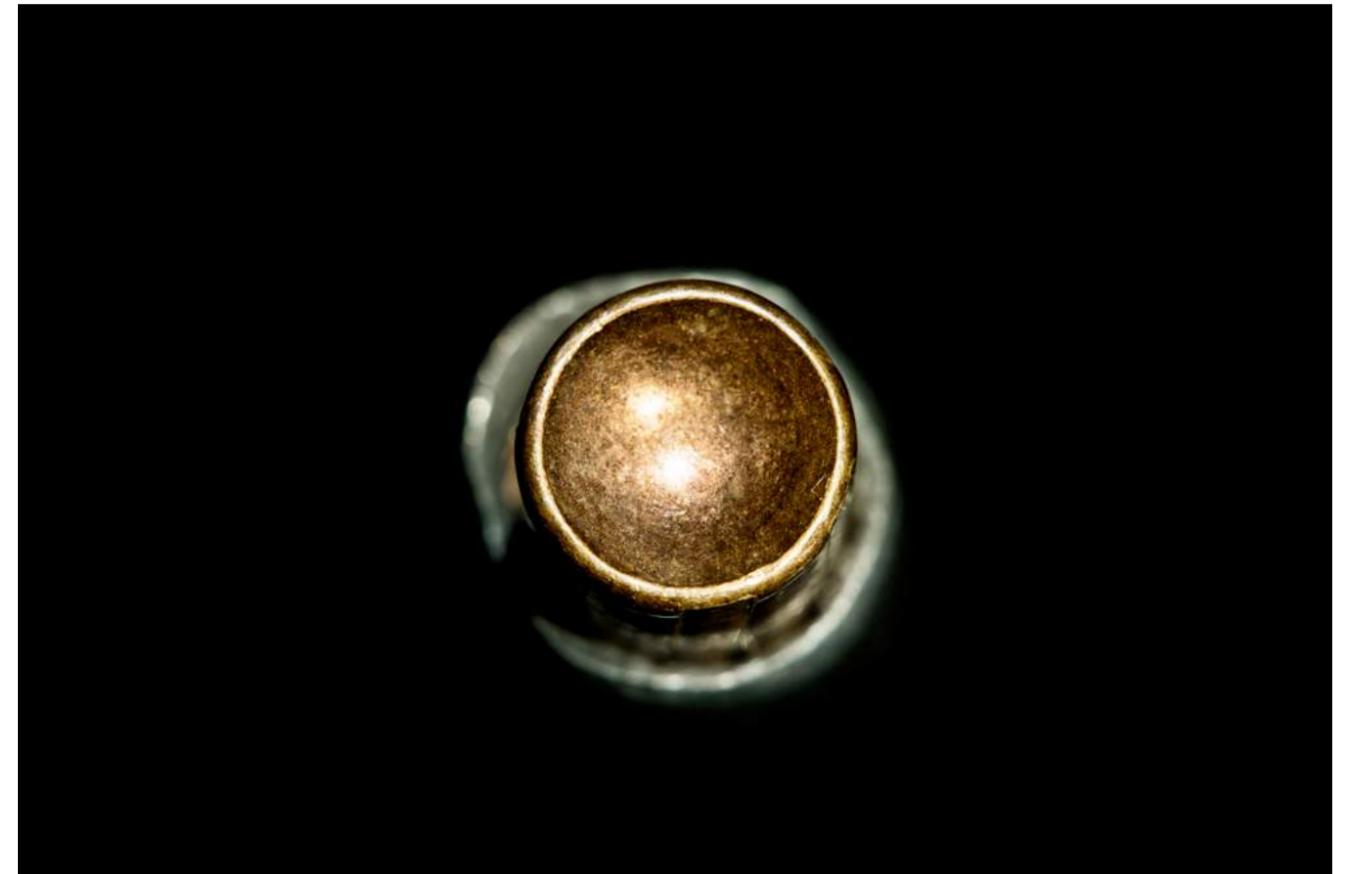
<sup>3</sup>Alan Turing (1952). "Can automatic calculating machines be said to think?" *BBC Third Programme*, 14 and 23 Jan. 1952, discussion between M.H.A. Newman, Alan M. Turing, Sir Geoffrey Jefferson, and R.B. Braithwaite.

Dr Omar Kholeif is the Manilow Senior Curator at the Museum of Contemporary Art Chicago and the Foundation-to-Life Inc. Arthur and Carol Kaufman Goldberg Visiting Professor and Curator at Hunter College, New York. Previously he was Curator at the Whitechapel Gallery, London; Senior Curator at HOME and Cornerhouse, Manchester; and Curator at FACT, Liverpool. He is the author and or editor of over two dozen books including, *You Are Here: Art After the Internet* (2014), *Moving Image* (2015), *Electronic Superhighway: From Experiments in Art and Technology to Art After the Internet* (2016) and *Fear Eats the Soul* (2016).

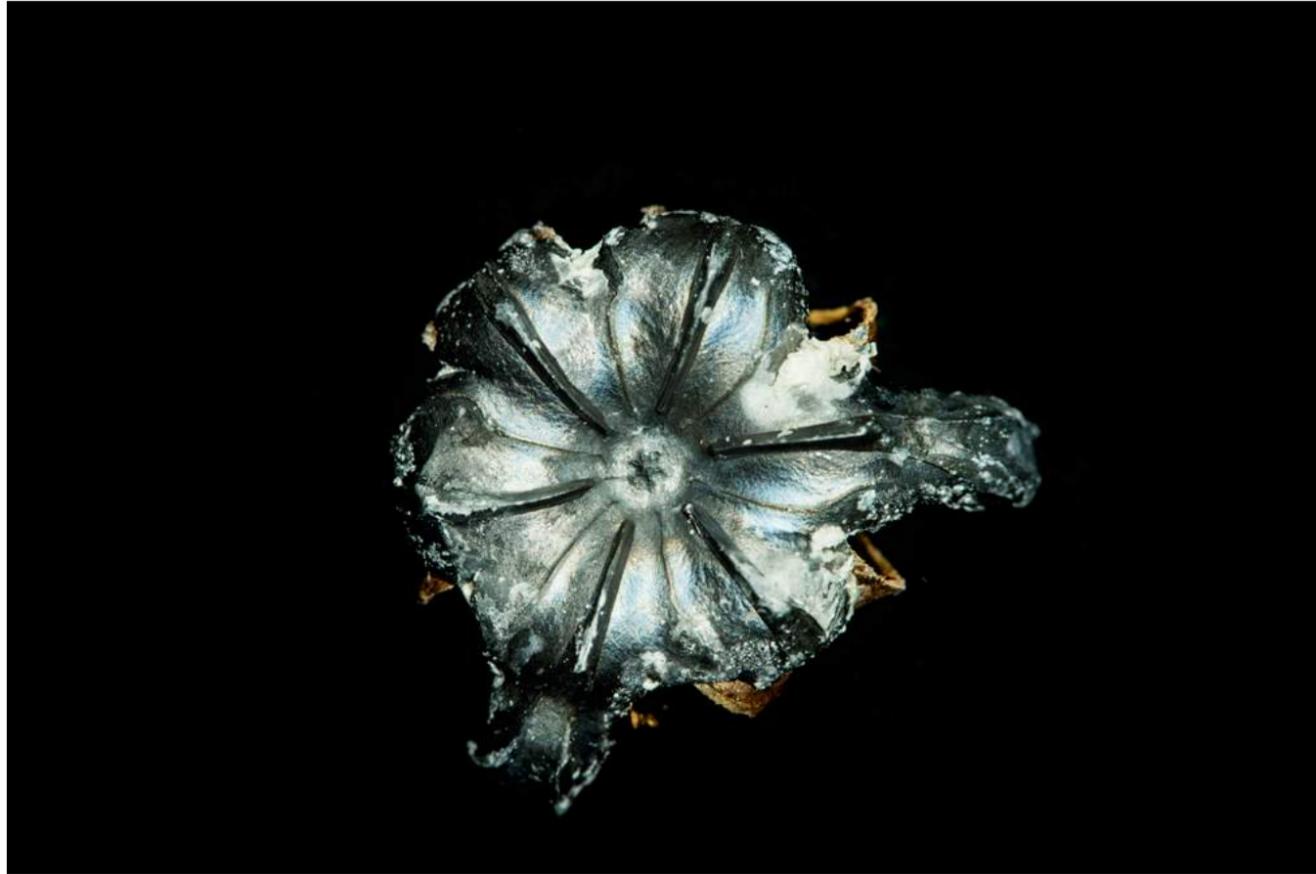
HER MARKS, A MEASURE



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*Her Marks, a Measure, 2016*  
Dallas Contemporary, Texas  
Installation View



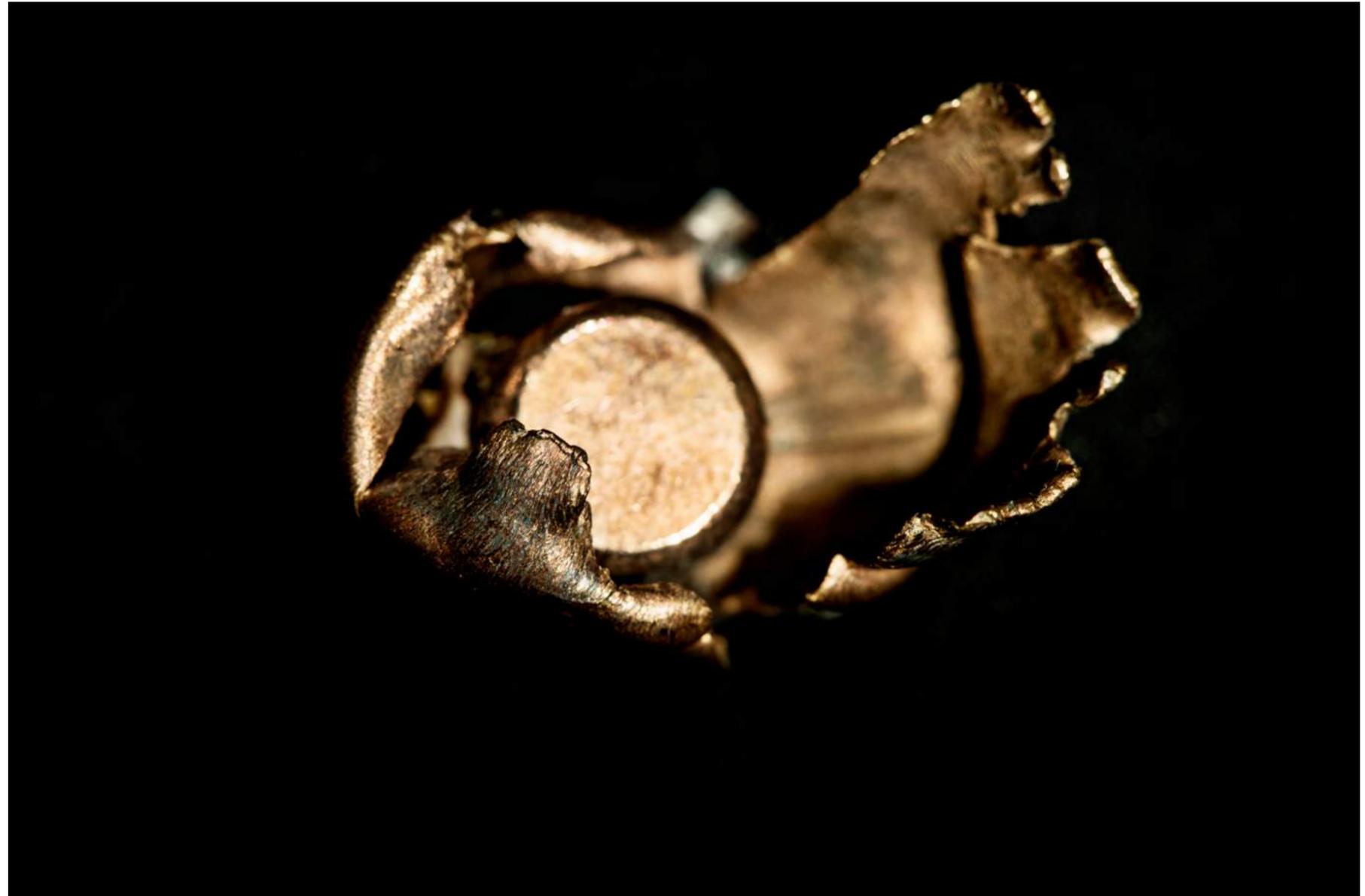
*Between the Bullet and the Hole, 2015*  
HD film, 12mins  
Film Still



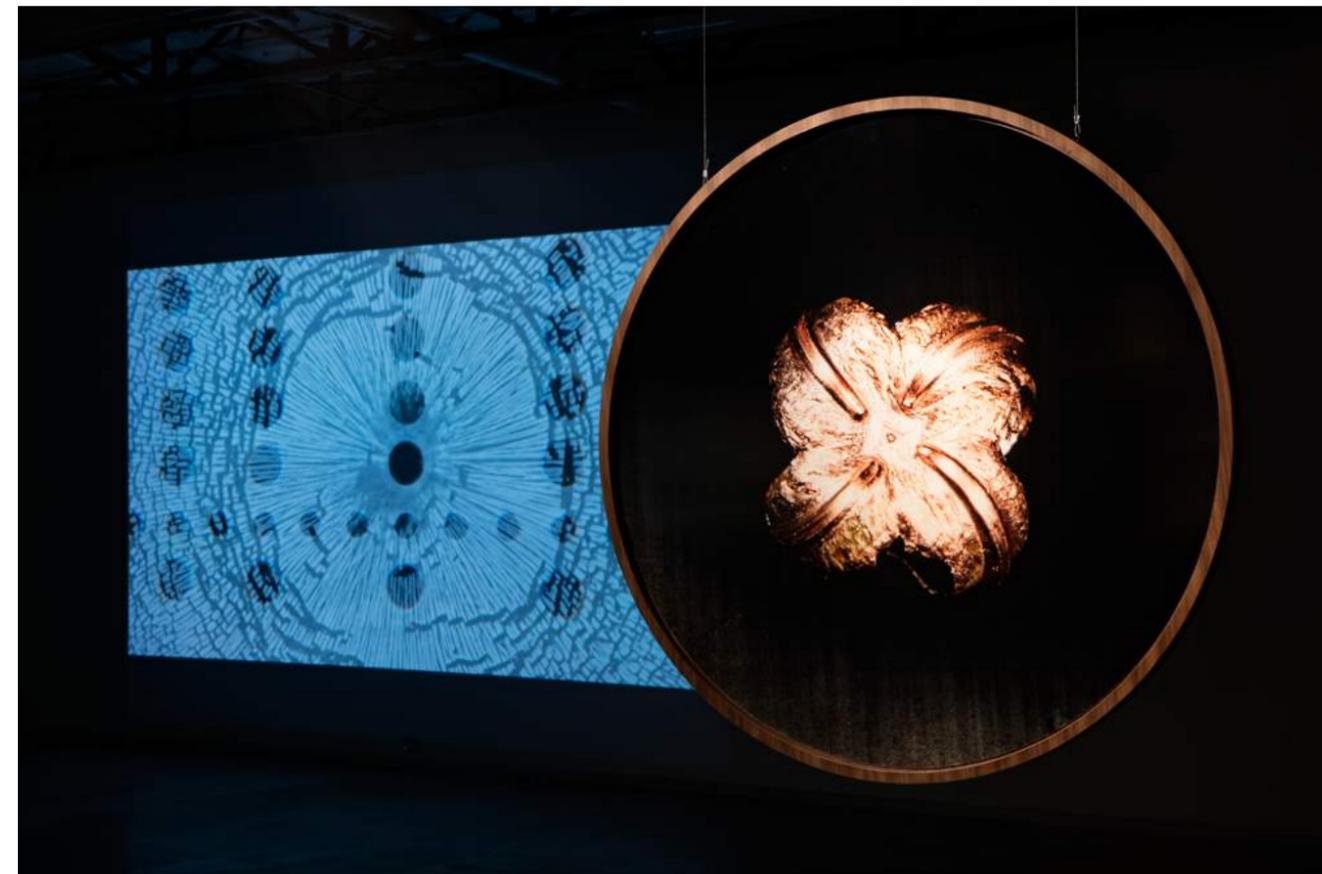
*Between the Bullet and the Hole*, 2015  
HD film, 12mins  
Film Stills



*Between the Bullet and the Hole*, 2015  
HD film, 12mins  
Film Still



*Between the Bullet and the Hole*, 2015  
HD film, 12mins  
*Flickering Between the Bullet and the Hole*, 2016  
Lenticular prints  
100 x 100 cm  
*Her Marks, a Measure*, 2016  
Dallas Contemporary, Texas  
Installation View





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*Flickering Between the Bullet and the Hole*, 2016  
Lenticular prints  
100 x 100 cm  
*Her Marks, a Measure*, 2016  
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*Her Marks, a Measure*, 2016  
Dallas Contemporary, Texas  
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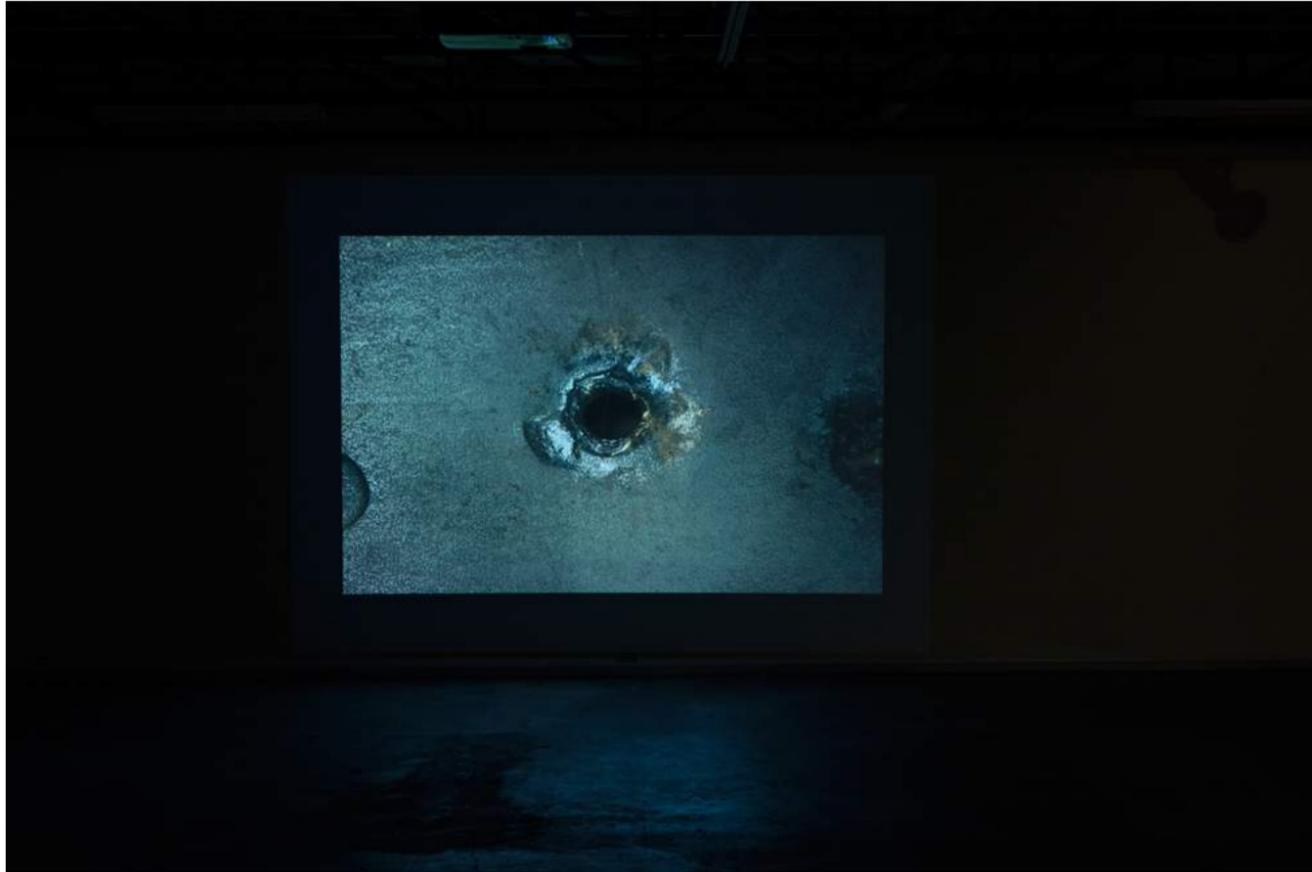
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Juxtaposed 35mm slides from  
*'Her Luminous Distance'*, 2014  
Problicom shutter device, automated slide projectors,  
MP3 player, headphones, 13 mins



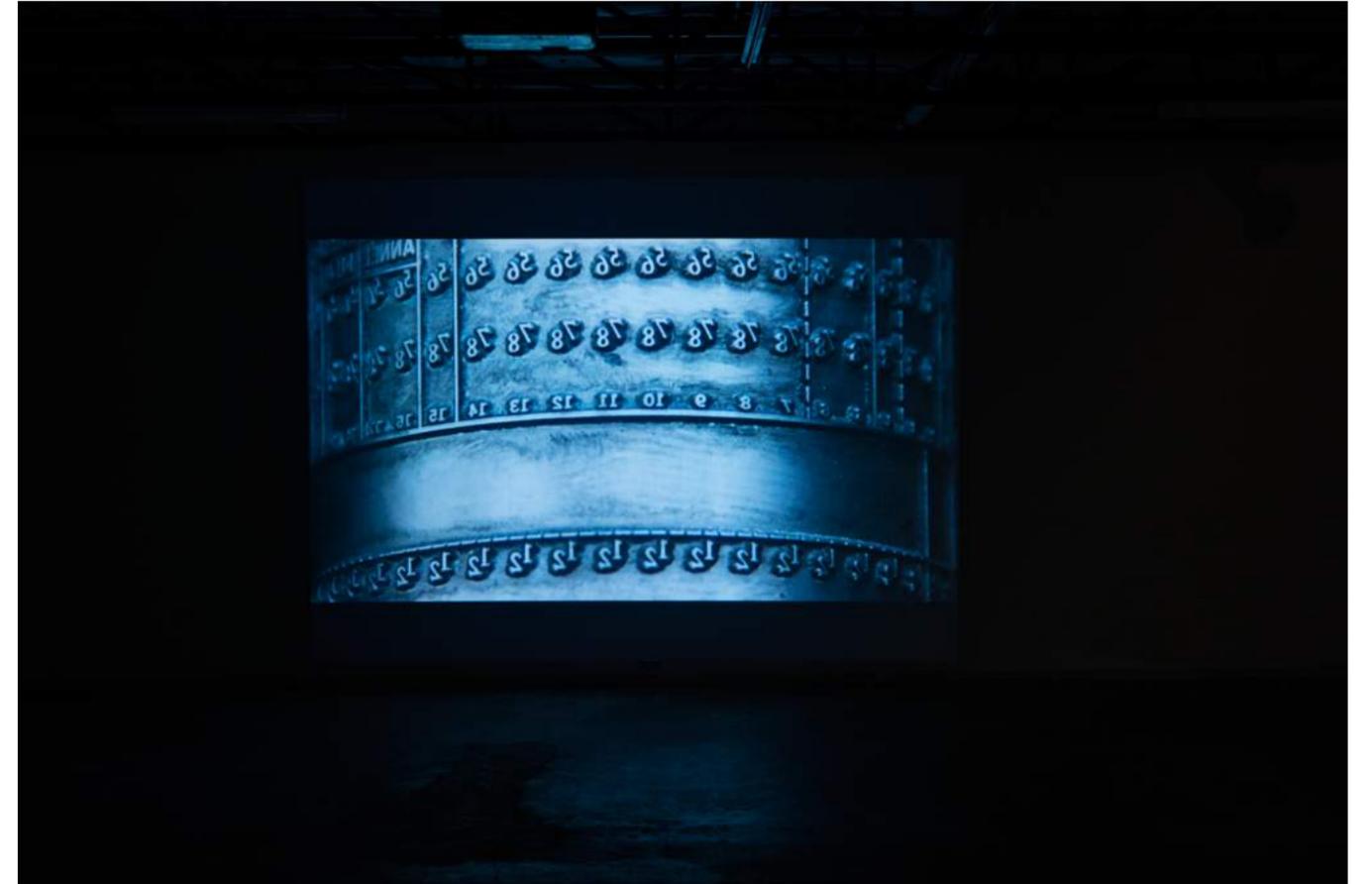


Current and Previous Page  
*Between the Bullet and the Hole*, 2015  
HD film, 12mins  
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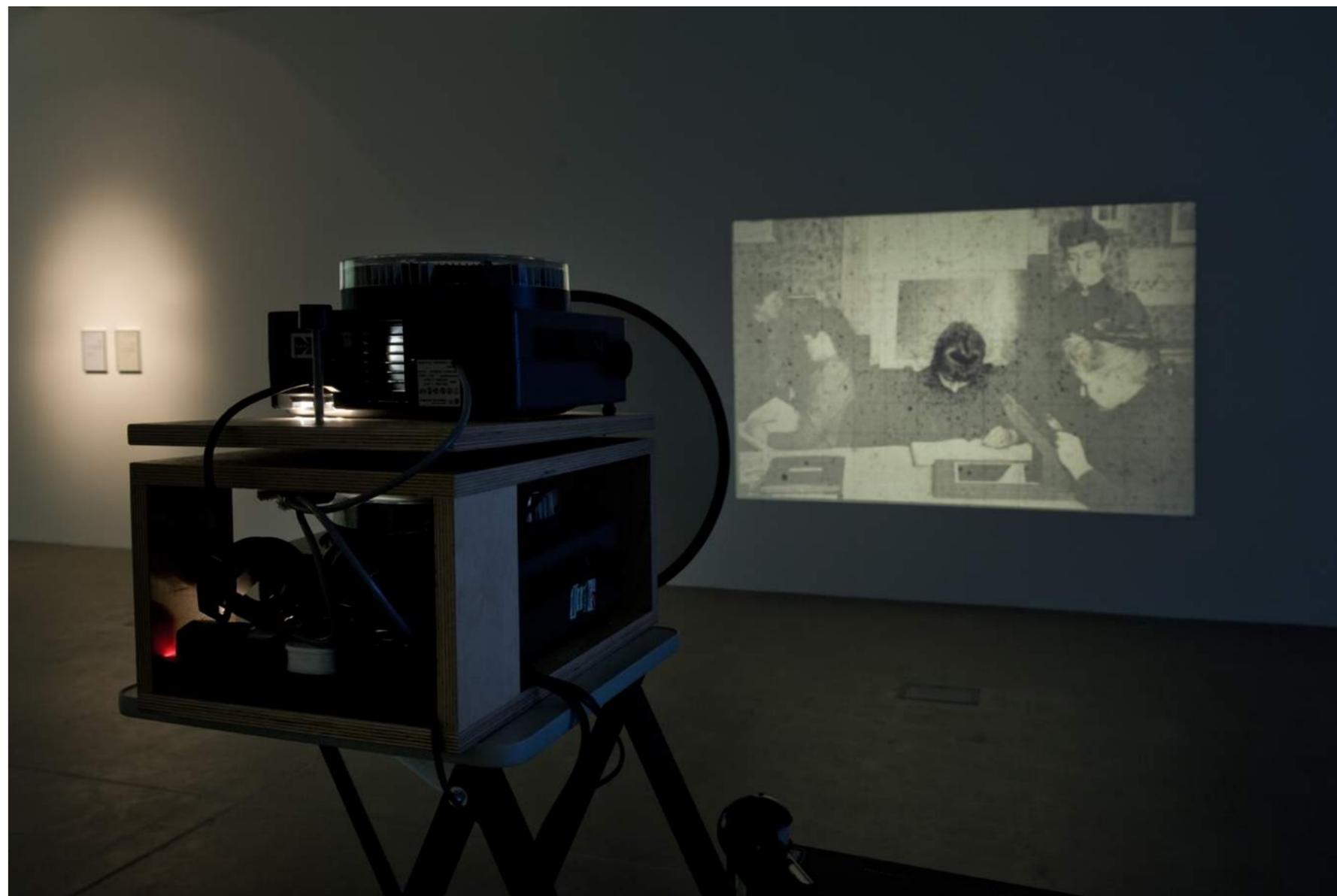
*Between the Bullet and the Hole*, 2015  
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Film Still

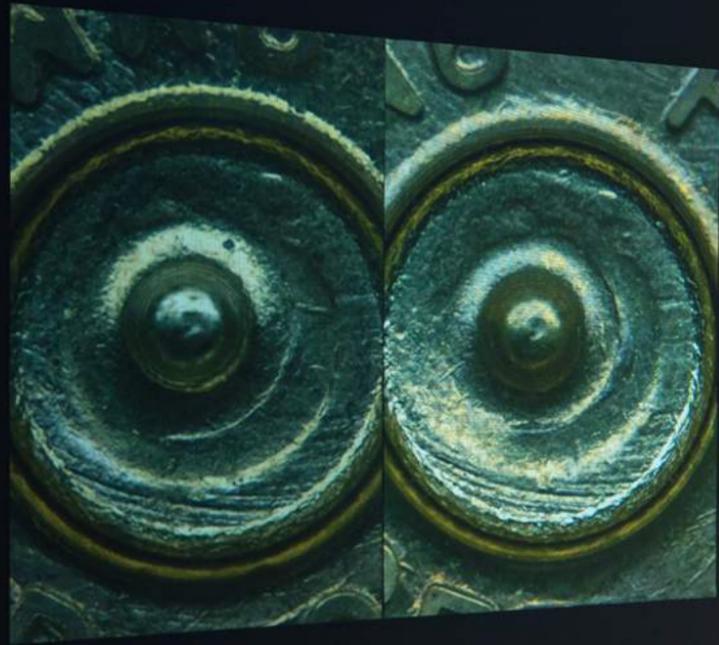


*Between the Bullet and the Hole*, 2015  
HD film, 12mins  
Installation View



*Her Luminous Distance*, 2014  
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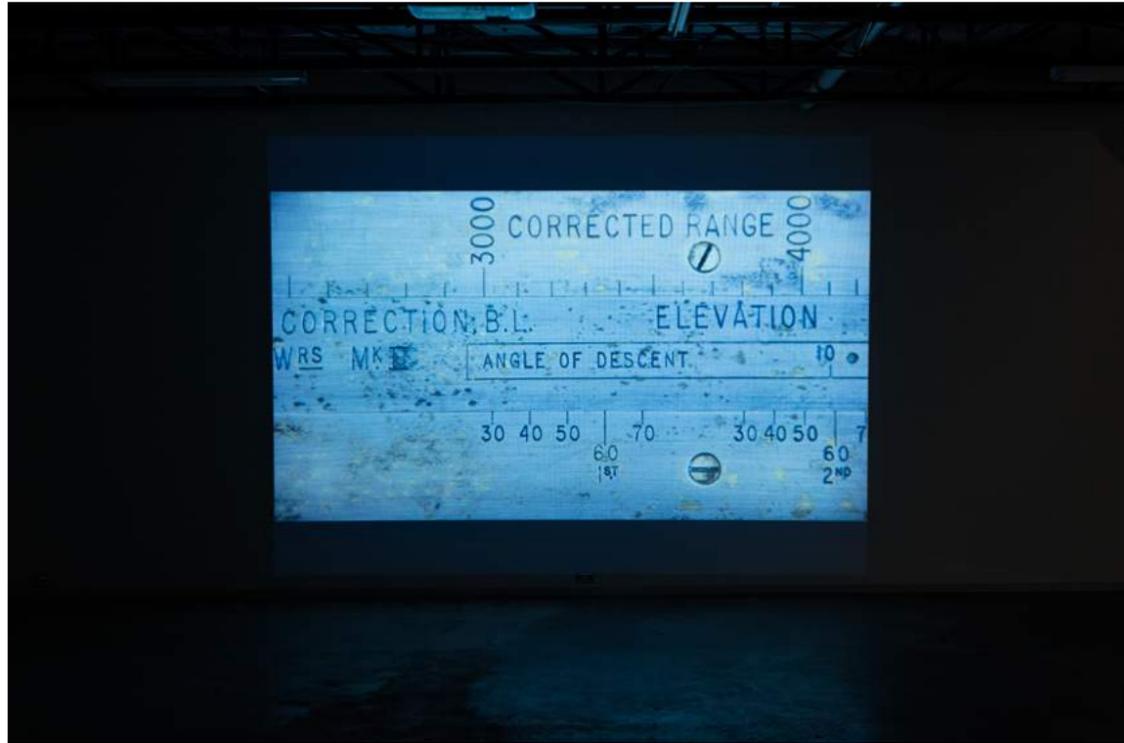




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*Between the Bullet and the Hole, 2015*  
HD film, 12mins  
Film Still



**Between the Bullet and the Hole**, 2015  
HD film, 12mins

**Flickering Between the Bullet and the Hole**, 2016  
Framed Lenticular prints  
100 x 100 cm  
Commissioned by Dallas Contemporary.

**Her Luminous Distance**, 2014  
Problicom shutter device, automated slide projectors, MP3 player, headphones, 13 mins  
Commissioned by Baltic. Special thanks to Alison Doane at Harvard College Observatory Library, The American Association of Variable Star Observers (AAVSO), the Lunar Reconnaissance Orbiter Camera Team in Arizona, the Maria Mitchell Association, and James Stuby. For additional help and suggestions Aura would like to thank Charles Wood, Alan Chu, and many more. Aura Satz would also like to thank Ian Watson, and Tai Shani.

**Between the Bullet and the Hole**, 2015  
HD film, 12mins  
Directed, edited, and scripted by Aura Satz, Music by Scanner  
Special thanks to Lis Rhodes. Ballistic imagery shot at Cranfield University with Thierry Bal, thanks to James Shackel. Schlieren imagery and film clips provided by Aired Research, thanks to Nathan Boor. Electric spark photography from Dayton Clarence Miller, 'Sound Waves: Their Shape and Speed' (1937). Comparison Microscope Forensic Ballistic imagery provided by Alison Quereau, Firearms Unit, Palm Beach County Sheriff's office. Edgerton images courtesy Harold Edgerton Archive, Palm Press, Inc. and the Michael Hoppen Gallery. Thanks to Simon Baker, Clemmie Cooke. Punchcard scans provided by Computer History Museum, thanks to Chris Garcia. Selected imagery from the Imperial War Museum, thanks to Martin Anthony. Additional thanks to Stuart Croft, Shira Hess, Phoebe von Held, Thierry Bal, Brian Dillon, Daniel Norwood, David Alan Grier, Andrew Davidhazy, Zoe Whitley, Justine Ludwig, and Jackie Stewart. Funded by Arts Council England, Co-commissioned by Dallas Contemporary and the Sydney Biennale, with additional support from Peter and Jackie Stewart.

AURA SATZ  
Born in Barcelona, 1974. Based in London.

#### Education

2002 Practice / theory PhD in Fine Art Media, the Slade School of Fine Art, London  
1998 Laurea in D.A.M.S. (Disciplines of Arts, Music and Spectacle), the University of Bologna

#### Selected Solo Exhibitions and Performances

- 2016 *Her Marks, a Measure*, solo show, Dallas Contemporary, Dallas, Texas  
*Her Marks, a Measure*, solo show, Fridman Gallery, New York, NY  
*Eyelids Leaking Light*, solo show, Clifford Gallery, Hamilton, NY
- 2015-16 *The Trembling Line*, solo show, John Hansard Gallery, Southampton
- 2015 *Eyelids Leaking Light*, solo show, George Eastman Museum, Rochester NY
- 2014 *Chromatic Aberration*, solo show, The Gallery, Tyneside Cinema, Newcastle  
*Colour Opponent Process*, solo show, Gallery 44, Toronto  
*Blink Comparator: Her Luminous Distance*, performance, 60th International Short Film Festival Oberhausen  
*Blink Comparator: Her Luminous Distance*, performance, De Appel, Amsterdam
- 2013 *Soundfigures*, solo show as part of the 42nd edition of the International Film Festival Rotterdam, BLAAK10 Gallery, Rotterdam  
*Impulsive Synchronisation*, solo show, Hayward Project Space, London  
*In and out of Synch*, film performance, 'Only Connect' festival, Kunstnernes Hus, Oslo  
Solo looped mini-retrospective, 'Views from the Avant-garde', 51st New York Film Festival, Lincoln Center, New York, NY  
*Colour Opponent Process*, solo show, Paradise Row Gallery, London
- 2012 *In and out of Synch*, film performance, Tate Tanks, Tate Modern, London  
*In and out of Synch*, film performance, Arnolfini, Bristol  
*Ventriloqua*, film performance, Cabinet, NY  
*Universal Language: A Lost Manifesto*, film performance, Barbican Cinema, London  
*Ventriloqua*, film performance as part of the Samsung Art+ award, BFI Southbank, London
- 2011 *Oramics: Atlantis Anew*, Science Museum, London  
*Duet performance*, film performance, Barbican Gallery, London
- 2010-11 *Sound Seam*, solo show, Wellcome Collection, London
- 2010 *I Am Anagram*, performance, Barbican Gallery, London  
*Turntable Tableau*, film performance, Live Weekend, ICA, London  
*Sound Seam*, solo show with Aleks Kolkowski, AV festival, Great North Museum, Newcastle
- 2008 *Glissolalia*, Soundtrap III, solo show and live event, Beaconsfield Gallery, London  
*Automamusic*, solo show, Artprojx Space, London
- 2006 *I Am Anagram*, solo show and performances, Whitechapel Gallery, London
- 2005 *I Am Anagram*, performance, De La Warr Pavilion, Bexhill-on-sea  
*Intrasonic*, performance presented as part of the First International Prize for Performance, Centrale di Fies in collaboration with the Galleria Civica di Arte Contemporanea di Trento, Trento
- 2004 *Ventriloqua*, film performance, FACT (Film, Art & Creative Technology), Liverpool

#### Selected Group Exhibitions, Film Festivals and Screenings

- 2017 *Spiritualized*, group show, IMMA (Irish Museum of Modern Art), Dublin
- 2016 'Between the Bullet and the Hole' screened as part of the *45th International Film Festival*, Rotterdam  
*Between the Bullet and the Hole*, solo retrospective screening and talk, Whitechapel Gallery, London  
*The future is already here – it's just not evenly distributed*, *20th Sydney Biennale*, group show, Sydney  
'Little Doorways to Paths Not Yet Taken' screening as part of *Deep Minimalism*, Southbank Centre, London  
'In and Out of Synch' screening as part of *Flaherty NYC*, Anthology Film Archives, New York, NY  
'Between the Bullet and the Hole', EUROPEAN SHORTS Competition, *New Horizons International Film Festival*, Wroclaw  
'Little Doorways to Paths Not Yet Taken', Lab Competition, *45th Festival du Nouveau Cinema*, Montreal
- 2015 Solo retrospective screening, *DIM Cinema*, The Cinematheque, Vancouver  
*Drawing Towards Sound*, group show, Stephen Lawrence Gallery, London  
*Chromatic Aberration* screenings:  
Experimental Competition, *23rd Curtas Vila do Conde International Film Festival*, Lisbon  
Lab Competition, the *44th Festival du Nouveau Cinema*, Montreal  
Fascinations Competition, the *19th Jihlava International Documentary Film Festival*, Jihlava  
International Competition, the *17th Bratislava International Film Festival*, Bratislava  
Winner of Best Vanguard Film Competition, *Lima Independiente International Film Festival*, Lima  
Vanguard Competition, *FILMADRID International Film Festival*, Madrid  
*28th European Media Art Festival*, Osnabrueck  
*44th International Film Festival*, Rotterdam
- 2014 *They Used to Call it the Moon*, group show, Baltic, Newcastle  
*Haunted House*, group show, Grundy Art Gallery, Blackpool  
*Mirrorcity: 23 London Artists*, group show, Hayward Gallery, London  
*Aura Satz and Lis Rhodes in conversation*, screenings as part of *Artist's film and video*, Tate Britain, London  
*BOOSTER –Art Sound Machine*, group show, Marta Herford, Herford  
*Pre owned: Looks Good Man*, group show, Cell Project Space, London  
*Transcendence: A Suite*, three-person show, Gertrude Contemporary, Melbourne  
*RISK Cinema*, retrospective screening, The Harn Museum, Florida  
European shorts Competition, *New Horizons International Film Festival*, Wroclaw
- 2013-14 *Curiosity: Art and the Pleasures of Knowing*, Hayward Touring group show in association with Cabinet Magazine, Turner Contemporary, Margate; Norwich Castle Museum and Art Gallery, Norwich; The Exchange and Newlyn Art Gallery, Cornwall; de Appel, Amsterdam  
Film performance as part of 'Unconscious Archives', Café Oto, London
- 2012 *Jarman Award Tour* screenings, Whitechapel Gallery, London; FACT, Liverpool; CCA, Glasgow; CIRCA projects, Newcastle; Nottingham Contemporary, Nottingham; Watershed, Bristol; Duke of York Cinema, Brighton  
*Sight of Sound* exhibition, group show, Deutsche Bank VIP lounge, Frieze Art Fair, New York, NY  
*Soundworks*, group show, ICA, London  
*Psychosis* part II, "I is someone else", group show, Färgfabriken - Centre for Contemporary Art and Architecture, Stockholm  
*Samsung Media Art+ Prize 2012*, group show, BFI Southbank, London  
*Transmediale 2012*, film screening, Haus der Kulturen der Welt, Berlin  
*Flights of Fancy*, group show, Tatton Park Biennale, Cheshire

- 2011 '*Sound Seam*' screened by Artprojx Cinema, the SVA Theatre, New York, NY
- 2010 *Language*, group show and performance, VIVID, Birmingham  
*Locate*, three-person show, Jerwood Gallery, London
- 2009 *Still-Film*, Artprojx presents..., screenings at LOOP festival, Espai Lliceu, Barcelona; Site Gallery, Sheffield; Tate Britain, London
- 2006 *Experiments in Pop: the new Vernacular*, group show and performance, Zentrum Paul Klee, Bern
- 2005 *Variety*, group show, De La Warr Pavilion, Marina, Bexhill on Sea
- 2004 '*Drift*' feature film, New Media Scotland Touring Moving Image Programme, *58th Edinburgh International Film Festival*; British Council, Belgrade, The Museum of Voivodina as part of *8th Videomedija Festival*, Novi Sad, An Tuireann Arts Centre, Isle of Skye
- 2002-03 *Con Art: Magic, Object, Action*, group show, Site Gallery, Sheffield; Glynn Vivian Art Gallery, Swansea
- 2001 *Bloomberg New Contemporaries*, group show, Camden Arts Centre, London; Northern Gallery for Contemporary Art, Sunderland

#### Selected Awards

- 2015 Arts Council England Award for the production of *Between the Bullet and the Hole Chromatic Aberration*, winner of Best Vanguard Film Competition in *Lima Independiente International Film Festival*
- 2014 Leverhulme artist in residence, the Institute of Sound and Vibration Research and the Department of Music, hosted at the University of Southampton
- 2012 Shortlisted for the *Jarman Award*, Film London  
Shortlisted for the *Samsung New Media Art+ Prize*, Suum projects  
Arts Council England Award for the production of *In and Out of Synch*
- 2011 Arts Council England Award for the production of *Universal Language: A Lost Manifesto*
- 2009-10 Artist-in-Residence, the Ear Institute, UCL, London
- 2009 Wellcome Trust Award for *Sound Seam*, in collaboration with composer Aleks Kolkowski and the Ear Institute
- 2008 NAN new collaboration bursary with Aleks Kolkowski
- 2007 Film and Video Umbrella development award for *Automamusic*  
Arts Council England Award for *Automamusic*
- 2006 Arts Council England Award for the production of *I Am Anagram*, Whitechapel Gallery
- 2006-08 Artsadmin Mid-career Artist Bursary
- 2005 Arts Council England Award for the research and development of *I Am Anagram*  
Special Prize of the *First International Prize for Performance*, the Centrale di Fies (Drodesera), in collaboration with the Galleria Civica di Arte Contemporanea di Trento, Trento
- 2002-05 Recipient of the Henry Moore Post-Doctoral Sculpture Fellowship, hosted at the Slade School of Fine Art

Aura Satz  
*HER MARKS, A MEASURE*

October 1 - November 5, 2016  
FRIDMAN GALLERY  
287 Spring Street  
New York, NY 10013

Fridman Gallery:  
Director: Iliya Fridman  
Associate Director: Naroa Lizar  
Gallery Assistant: Ruby Nightingale

Catalog:  
Design: Naroa Lizar  
Essays: Justine Ludwig, Erika Balsom and Omar Kholeif  
Images: Kevin Todora (pp. 16-17, 25, 26-27, 29, 31, 34-35, 36, 39 42-43, 46),  
Tai Spruyt (p.9) and Colin Davison (pp.5, 41)  
Cover image: film still by Thierry Bal

Thanks to Iliya Fridman, Naroa Lizar, Ruby Nightingale, Regine Basha, Justine Ludwig,  
Stephanie Rosenthal, Alessandro Vincentelli, Robin Rimbaud aka (Scanner), Lis Rhodes,  
Zoe Whitley, Erika Balsom, Omar Kholeif, David Alan Grier, Agnieszka Gratza, Morgan Quiantance,  
Shira Hess, Phoebe von Held, and of course my family.

With funding from Arts Council England, the RCA Research Development fund,  
and support-in-kind from Dallas Contemporary.

ISBN 978-1-68419-157-4

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