Association for Industrial Archaeology: *The Architecture of Industry* (November 2023)

Filming the Architecture of Industry: an accompanying visualography

bibliography | filmography | discography | video-making resources

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PART 1: VISUALISING THE ARCHITECTURE OF INDUSTRY

> *'Once the province of film and media scholars,* ***today the moving image concerns historians of art and architecture*** *and designers of everything from websites to cities. As museums and galleries devote increasing space to video installations that no longer presuppose a fixed viewer, urban space becomes envisioned and planned through "fly-throughs," and technologies such as GPS add data to the experience of travel,* ***images in motion have captured the attention of geographers and scholars across the humanities and social sciences****.'*
>
> Dimendberg, Edward (ed.), (2019) *The Moving Eye: Film, Television, Architecture, Visual Art and the Modern* (Oxford Academic) ISBN: 9780190218430 [my highlights]

Film-making has focused on industrial architecture and industrial archaeology since its earliest reels:

Vue n°653 Arrivée d'un train à la Ciotat (1895) © Association Frères Lumière
www.institut-lumiere.org/musee/les-freres-lumiere-et-leurs-inventions/films-lumiere.html

Why – throughout the first century of cinema – did film-makers keep returning (independently of each other) to the Architecture of Industry?

I propose that the answer isn't **only** to be found in the convenience, scale and adaptability of (former) industrial locations as large-scale film locations. There are (repeated) instances – most notably in the science-fiction genre – where the Architecture of Industry **BECOMES** the film due to **immersive** scale.

For a definition of 'immersive' as applied to documentaries, see Bricca, J. (2023) *How Documentaries Work* (Oxford University Press) ISBN-13: 9780197554111:

> *'Outside of the realm of traditional storytelling... "immersive" documentaries build a satisfying aesthetic experience.... setting up tonal patterns... Notably these films tend to have little dialogue and no narration. These films nonetheless answer the question: what is this film about?'*

Architecture of Industry as stage: stations, factories, docks, airports, power-plants (and more)

Sergei EISENSTEIN used the shadows of factory gates and the motion of wheels as (symbolic) elements in 1925 silent-film ***Стачка | Strike*** (SU, CC Attribution 3.0):

One of the earliest (and still most influential) film examples of 'futurised' industrial architecture: ***Metropolis*** (1927) by **Fritz LANG.** For an architect's perspective on industrial architecture mediated through science-fiction genre to become industrial-design (futurology), see Rakesh Ramchurn (2014) 'Building Brave New Worlds: the architecture of sci-fi movies', *Architect's Journal*.

Prophets of industrial drone-videography **Dziga VERTOV** and **Elizaveta SVILOVA** created their 1929 immersive documentary Человек с киноаппаратом *Man with a Movie Camera* (Ukraine SSR) by embedding movie cameras **within** numerous industrial locations including railway tracks, trams, mine shafts, factories, metal foundry, telephone exchange and a crane-pulley across a dam in order to create point-of-views of industry-in-motion:

Stills from *Man with a Movie Camera* (1929): railway track | mine | foundry | camera-mounted pulley-shots across dam (public domain).

Alfred HITCHCOCK directed the construction of a scale-model miniature of the (then-recently-built) Battersea Power Station (phase 1) as architectural backdrop (and plot device) for his 1936 film *Sabotage* (UK):

Filming the Architecture of Industry: miniaturised! Still from *Sabotage* (1936)

Akira KUROSAWA (JP) located the plot of his 1955 film *Ikimono no kiroku I Live in Fear*) in a metal works (an industrial location film-makers have revisited for its cinematic potential, e.g. **Dziga VERTOV | Andrei TARKOVSKY | James CAMERON | Wang BING**)

Architecture of Industry as plot

Chris MARKER used Paris Orly airport observation deck as the (eponymous) location for the (start and end of) the plot in his influential science-fiction 'photo-novel' *La Jetée* (1962, FR):

Architecture of Industry: (time) aligned. The visual association of the Architecture of Industry with (time) travel is a recurring motif throughout the history of cinema. Still from La Jetée (1962, FR)

Andrei TARKOVSKY's Сталкер | *Stalker* (1979, SU) was filmed in heavy-industrial locations, integral to the film's supernatural/science-fiction plot about a place-shifting, time-shifting 'Zone':

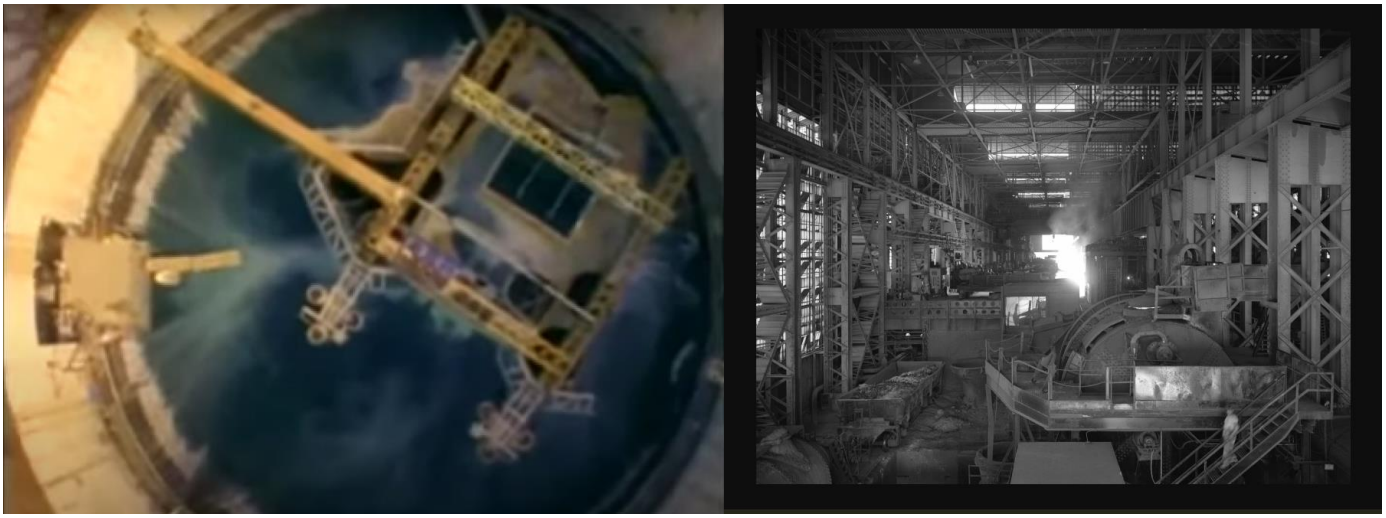
> "*There were two power stations [in Tallinn, (EE)] an ordinary one and the other hydroelectric, abandoned, with a blown-up dam — that's the first spot, and the second — that's really amazing, no one would believe — in a pasta factory.*"
> Maria Chugunova, assistant director

Filming the Architecture of Industry: Stalker. Ultra-realism. But at what cost to the film-makers? See 'Cautionary tales' (below)

James CAMERON used the labyrinthine interior of decommissioned Acton Lane power station (London, UK) to film science-fiction film *Aliens* (1986):

Architecture of Industry as alien? Decommissioned Acton Lane Power Station (UK)

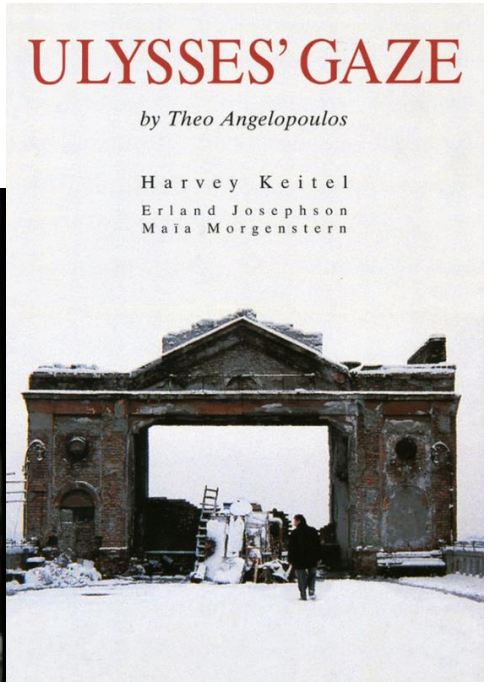
The same film-maker adapted the uncompleted Cherokee Nuclear Power Plant (USA) to film underwater sequences in *The Abyss* (1989). Kaiser Steel Mill was the scene of the plot-climax of Cameron's *Terminator 2* (1991):



Converting an uncompleted nuclear reactor to an aquatic film set (left, photo 'Under Pressure'). Right: Kaiser Steel Mill (USA) *Photo: Los Angeles Daily News 1949: CC BY 4.0*

Hellenic film-maker **Theo ANGELOPOULOS** made extensive use of industrial locations throughout his 1995 film Το βλέμμα του Οδυσσέα | ***Ulysses' Gaze***, including the Lavrion/Thorikos mining area south-east of Athens

(GR) and Constanța port (RO), with a plot revolving around the search for the earliest motion-picture that (appropriately!) recorded industrial activity:



Stills from *Ulysses' Gaze* (1995): *the search for the earliest reels of film (depicting textiles) | an odyssey through industrial landscapes of the Balkans*

Architecture of Industry as camouflage: adapting the film-maker

Stanley KUBRICK partially demolished decommissioned areas of Beckton Lane gasworks (London, UK) for sets in ***Full Metal Jacket*** (1987):

"*We had a demolition team in there for a week blowing up buildings, and the art director spent about six weeks with a guy with a wrecking ball and chain, knocking holes in the corners of things and really getting interesting ruins – which no amount of money would have allowed you to build.*"
Washington Post, 28 June 1987

On advice from demolition experts, Kubrick ultimately decided to leave the manufactured-gas retort houses standing, opting instead for camouflage. In a role-reversal of typical 'adaptation' in industrial archaeology (where former industrial sites are altered in order to meet functional requirements of non-industrial use), Beckton gasworks is a notable example of where an 'immovable object' in the architecture of industry prompted a film-maker to adapt filming plans.

Architecture of Industry: taphonomy (with additional assistance from film-set designer...).
Beckton gasworks retort houses (London, UK) in 1996 (prior to final demolition) after its use as a film-set. Ben Brooksbank, CC BY-SA 2.0. The Stanley Kubrick Archive (London College of Communication) SK/16/2/6/1/2 contains detailed correspondence and maps about the adaptation of Beckton gasworks (and the gasworks' own architectural-adaptation of filming plans) between 1983-1985.

Architecture of Industry BECOMES film?

Before he became a film-maker, a teenage Kubrick had worked as a photographer for *Look* magazine, recording industrial architecture around 1940s' New York (USA), a portfolio that indicates an influence on his later set design and special effects:

Architecture of Industry: from subway to stargate?
1940s' New York Subway photographed (left) by Stanley Kubrick for Look magazine (Museum of the City of New York Collections: MNY290121).

Compare one-point perspective of acceleration-blurring effect in the subway (left) with (right) *2001: A Space Odyssey* (1968, UK) | using slit-scan technique; supervisor: Douglas Trumbull, directed by Stanley Kubrick.

Cautionary tales of contamination: filming (inside) the Architecture of Industry

The premature deaths (from bronchial cancers) of film-maker Andrei Tarkovsky, lead actors and production crew from the film *Stalker* have been attributed (by other members of the production) to the toxicity of filming in industrial locations without adequate remediation:

'Auteur' over environmental-risk assessment? Andrei Tarkovsky and crew at an industrial location shooting *Stalker*

Tarkovsky's posthumous memoir (1989 English translation) *Sculpting in time : reflections on the cinema* (ISBN: 0571151353) mentions the deaths of actors and his own cancer diagnosis but does not attribute cause.

For the 'making of' *Full Metal Jacket* at Beckton gasworks (UK) in the mid-1980s, Stanley Kubrick undertook over 18 months of pre-production planning with British Gas (as documented in The Stanley Kubrick Archive), including:

- background research about the history of Beckton gasworks
- British Gas' explicit statements of environmental risk within the filming contract ('*many areas of the site contain toxic waste with hazardous chemical content including oxides, phenol, arsenic and other known carcinogens*')
- safety procedures | marking of/restricting access to hazardous zones in contracts and on grid-maps by British Gas and the film's producers
- crew wearing masks on site

However, 'other behind-the-scenes' footage does not indicate remediation of surface earth and ground water:

Stills from Stanley Kubrick: a life in pictures (Warner Bros. Entertainment, 2001)

In these cases, *auteurs'* demand for realism may be a cautionary tale. An outcome of this research would be for industrial-archaeological associations to engage media-industry associations proactively to provide consultancy, advisory and education services to 'location scouts' in media companies in order to educate about (the mitigation of) risks of filming in (unremediated) industrial environments.

21st-century industrial documentary 铁西区 ***Tie Xi Qu: West of the Tracks***

Just as the approaching railway engine in **VERTOV**'s *Man With a Movie Camera* (1929) appears to reference the **LUMIÈRE** Brothers' *Arrivée d'un train à la Ciotat* (1895), **Wang BING'**s nine-hour immersive documentary 铁西区 *Tie Xi Qu: West of the Tracks* (2002, CN) a film in three parts 工廠 gōngchǎng ('factory) | *Rust* 艳粉街 Yànfěn Jiē | *Remnants* 铁路 (tiělù) | *Railway*) about industrial change in Shenyang, China at the turn of the 21st century, includes many visual references to the cinematic history of the Architecture of Industry, especially

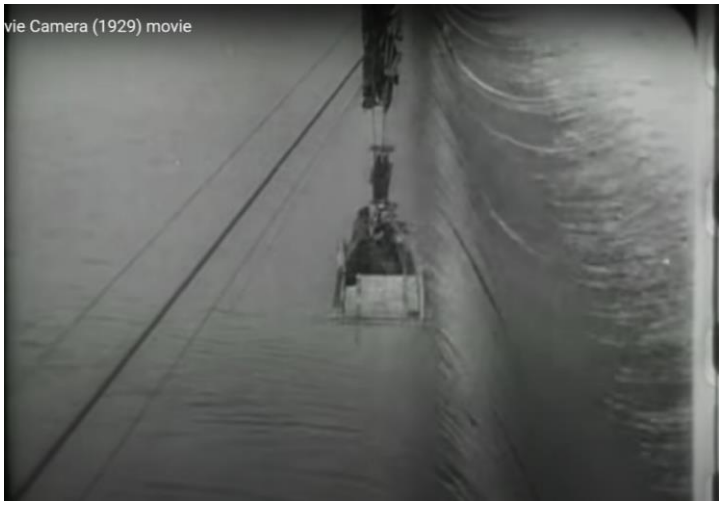
Dziga VERTOV and **Andrei TARKOVSKY**:

Stills from Part 1: 工廠 gōngchǎng ***Rust***

> "I had the chance to study with Zhou Chuanji (1925 – 2017) in Beijing [Film Academy]. In his classes I watched the films of Tarkovsky, Antonioni, and Bergman. **It was Tarkovsky's films that made me understand what cinema really is."** [Bing WANG]

For example, **WANG** used the pulley above the copper-plating factory as a proto steadicam-drone, evoking both

- **VERTOV's** camera-on-pulley-across-dam sequence in *Man with a Movie Camera*



- the derelict factory inside the 'Zone' of **TARKOVSKY**'s *Stalker:*

Left: camera-on-pulley point-of-view sequence, Shenyang (CN) ~2000 (WANG: 铁西区 *Tie Xi Qu: West of the Tracks* ***Rust (工廠 | factory)***

Compare right: abandoned factory inside the 'Zone', Tallinn (EE), 1970s (TARVOVSKY *Stalker*)

By:

- undertaking point-of-view video exploration of abandoned industrial sites ('filmmaker-archaeologist' as described in a film essay '[Salvaging the rubble of Utopia]'), and

- attaching cameras to trains

this documentary presaged the (now-common) long-form, livestream-internet format of fixed-cameras attached to moving vehicles on long-distance journeys:

Still sequence from point-of-view sequence in **Part 3 铁路 (tiělù) | *Railway***

This technique also created multiple points-of-view of industrial architecture through both point-of-view and horizontal dolly shots, again anticipating the steadicam capabilities of drone videography:

Shenyang Sheet Metal Factory: closure: 1997 | demolition: 2001. WANG: 铁西区 *Tie Xi Qu: West of the Tracks* ***Rust (工廠 | factory)***

(Water) colours of industrial architecture: (natural) supernatural

Independently confirming **Stanley KUBRICK's** rationale about the unique qualities of industrial locations for filming ("*really [about] getting interesting ruins – which no amount of money would have allowed you to build"*) the ambient lighting and unavoidable moisture in the copper-plating factory of ***Rust (工廠 | factory)*** creates a (natural) 'supernatural' colour-shifting, Impressionist appearance throughout the industrial process (that would simply not be achievable on a film-set with practical effects):

Sequence showing water-cooling of copper plates in **WANG** 2002 铁西区 *Tie Xi Qu: West of the Tracks* ***Rust (工廠 |)***. Note how colour change from ground-level (orange-red) to elevated (pink-purple).

Cautionary tales of contamination (revisited)

Through an interview with the foreman of the copper-plating factory **WANG** explicitly acknowledges the environmental-safety awareness that is required when filming inside an industrial 'zone':

> "*When you go into the smelting plant you should always wear a face mask. Never go in there without one. The fumes can irritate your nose and throat. Copper smelting fumes are poisonous. Lead emissions here are high too ….they really ought to ask workers to wear masks to avoid inhaling the particles…Being a smelter is a dangerous job*."
> **WANG** 2002 铁西区 *Tie Xi Qu: West of the Tracks* ***Rust (工厥 I)***.

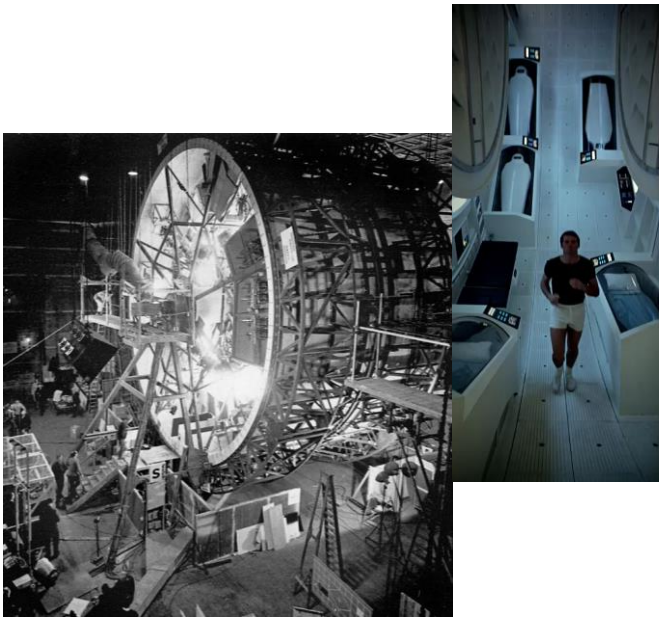
Impact of 铁西区 *Tie Xi Qu: West of the Tracks* **for industrial archaeologists**

WANG's immersive documentary has received widespread international recognition in cinema publications (appearing high in rankings of the most influential films of 21st century) and has been the subject of research publications in film studies about documentary film-making, both of which indicate an opportunity for industrial archaeologists to collaborate further with media researchers in this genre of industrial documentary.

Future research: the Industrial Archaeology of film-making

The above filmography is illustrative and does not claim to be exhaustive. If you're an industrial archaeologist in an institution with a film-school/media-department, why not collaborate with your colleagues to document visualised examples of industrial architecture and archaeology in your region?

As a potential area of future research, the industrial archaeology of film-making is still relatively under-researched: fragmented among archives of film-makers and studios, with ephemeral sets in locations that may no longer exist and technology that was sometimes (purposely) undocumented (and then deliberately destroyed) to avoid duplication by other film-makers (!).



*Creative destruction: Architecture of Industry **BECOMES** the film (and is then intentionally dismantled): 30-tonne rotating twin-centrifuge suspended from set of 2001: A Space Odyssey (1968) at MGM-British Studios Borehamwood (UK) | commissioned from aerospace company Vickers-Armstrong Engineering Group | embedded cameras custom-designed by Panavision to fit within architecture of centrifuge (equipment and film studio all since dismantled)*

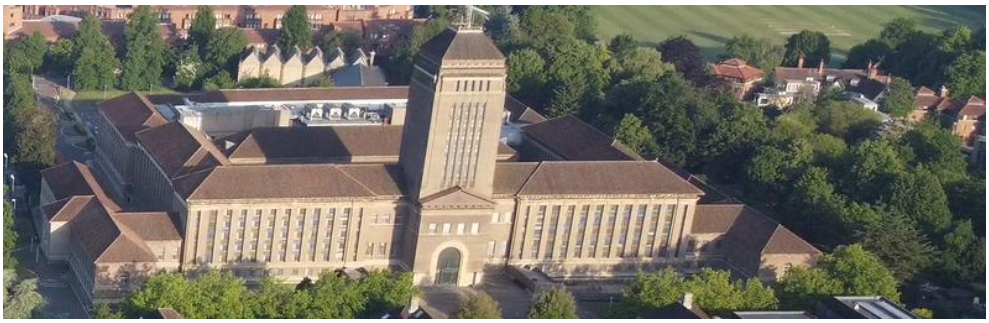
PART 2: IS THERE AN ARCHITECTURE OF INDUSTRY?

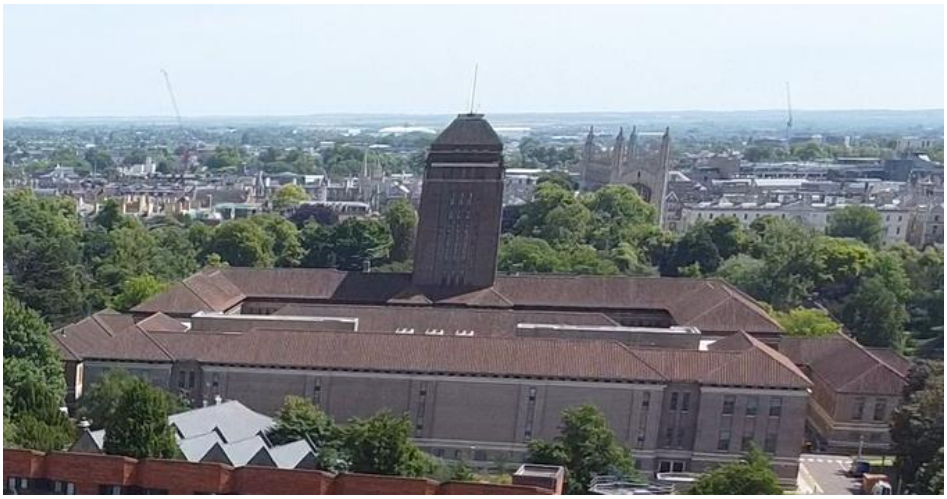
Starting with a local question...

If a library and a power station can be architectural 'twins' – and both buildings are in turn influenced by civic and religious architecture of Bronze Age Mesopotamia (~2nd millennium BCE) – is there actually an architecture of industry?

This question was my (local) starting point, inspired by architect Giles Gilbert Scott (1880–1960) (www.gilbertscott.org/tag/sir_giles_gilbert_scott) whose 'lookalike' architectural projects included:

- Cambridge University Library, constructed 1931–1934 (www.lib.cam.ac.uk/about-library)





Photos: Cambridge University Library. The Willcox Collective, commissioned for Cambridge Museum of Technology, June 2022, facilitated by Robinson College. Creative Commons: Attribution CC BY 4.0

- Battersea Power Station (London), phased construction 1929–1955, now decommissioned and redeveloped as commercial, residential and retail space (www.batterseapowerstation.co.uk)

Photo: Battersea Power Station, 2022 by Elaine Davies. Creative Commons: Attribution CC BY 4.0

Compare with this ziggurat from ~1200 BCE!

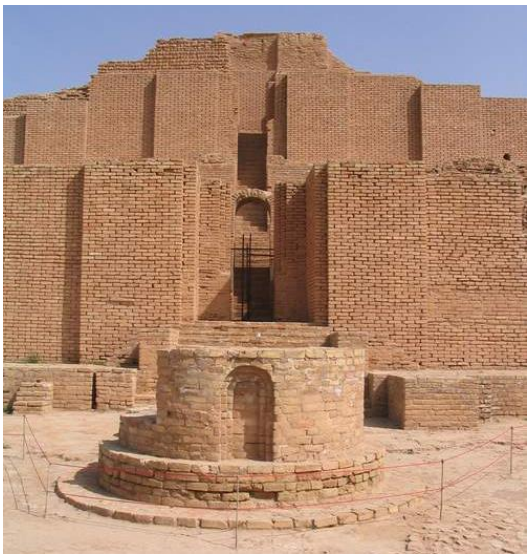


Photo: Chogha Zanbil, Ziggurat constructed ~1250 BCE by Marco Prins, CC0 1.0 Universal

www.livius.org/pictures/iran/choga-zanbil/choga-zanbil-ziggurat/choga-zanbil-ziggurat-sundial

Inspired by (local) image-makers: the Architecture of Industry taken by Storm

Local image-makers Storm Thorgerson and Aubrey Powell, who grew up in Cambridge (within sight of Gilbert Scott's University Library), would also photograph Battersea Power Station for the rock band Pink Floyd (several

of whose members also grew up in Cambridge and would have been familiar with Gilbert Scott's architecture): Architecture of Industry meets popular culture.

A flaming temple? Battersea Power Station, London for Pink Floyd album cover (1977) *Animals*, design by Hipgnosis,
"*The beautiful and dramatic qualities were best achieved by photographing [Battersea Power Station] for real*."
Storm Thorgerson (2007) *Taken by Storm*. Publisher (Omnibus Press) ISBN-10: 1846096677

The band Pink Floyd has also produced and narrated a mini-documentary featuring interior and exterior architecture of Battersea during its operation and referring to the power station as "*a flaming **temple***":

Sonic Architecture of Industry: power station as cathedral

Note the similarity in concept of symphony composer **Jóhann Jóhannsson,** who composed *A Prayer to the Dynamo* (2012) for full orchestra, featuring a soundtrack of recordings of **electrical installations, generators and high-voltage wires made at the decommissioned Elliðaár hydroelectric power plant** (Reykjavík, Iceland).

> "Jóhannsson's notes... **liken the Elliðaár [power] plant to a cathedral**, and ideas of scale, majesty, mystery and consolation can all be heard in the music of *A Prayer to the Dynamo*, featuring massed strings, chorale-like brass writing and soaring woodwind, all underpinned by the humming, pulsing reverberations of his field recordings."

www.deutschegrammophon.com/en/artists/johann-johannsson/news/johann-johannsson-a-lost-symphony-270288

Inverting the Architecture of Industry: experimental photographic techniques

Storm Thorgerson specialised in what he called "infra-red weird photography" a colour-inversion technique that he acknowledged seeing in the 1968 motion picture *2001: A SPACE ODYSSEY* (*see above*),

"Along with a reversal of tone, 'negative' edging was achieved, as if the image itself was internally illuminated, (most noticeable in the vanes of the windmill)."

Storm Thorgerson (2007) *Taken by Storm* (Omnibus Press) ISBN-10: 1846096677

Example of colour-inversion (accidentally) enlightening industrial archaeology

A windmill (Ibiza, Spain) with colour-saturation, -solarisation and -inversion applied by Storm Thorgerson for Hipgnosis [1969 album cover *More* by band Pink Floyd (EMI/Columbia Records)]

Two sides to every story: using colour-inversion as a process to analyse industrial architecture

I experimented with this 'duality' technique on a 1933 monochrome photo of Cambridge's industrial architecture in order to provide additional clarity to architectural structure:

Pumping Station and University & Town Gas-Light Company, Cambridge, 1933 (image courtesy of Cambridgeshire Archives) with colour-inversion applied (right) to reveal more detail of metalwork (gasholder bracing), and brickwork.

Another advantage of this (true) colour-inversion technique: as well as being very simple to apply to digital video (a single button-click filter in a free video-editor | see Resources below) this technique avoids potential pitfalls of 'artificial-intelligence' colourisation (where bias may be introduced by machine-learning algorithms: (2022) *Bias in Automated Image Colorization: Metrics and Error Types).*

Industrial influences in contemporary architecture and industrial design

For those interested in exploring the influence of industrial architecture in contemporary design, architects and designers who have been explicit about incorporating the influence of 'heavy' industrial architecture include:

- Norman Foster who took inspiration from industrial architecture when growing up in Manchester (UK) and later specialised in industrial architecture. See his authorised biography: Sudjic, D. (2010) *Norman Foster: A Life in Architecture*. ISBN 978-0-297-85868-3
- Jony Ive grew up (Stafford) and studied (Newcastle) in areas of the UK surrounded by industrial architecture (L. Kahney (2014) *Jony Ive* (Penguin) ISBN-10: 9780670923243

An early design influence on Norman Foster included water cisterns he saw in Manchester; pictured here is Jony Ive and Norman Foster's architectural collaboration on Apple Corporation headquarters (USA):

 *Photo credit:*

Daniel L. Lu (2018) Creative Commons BY-SA 4.0

PART 3: 'MAKING OF' AN (INDUSTRIAL) TALE OF TWO CITIES

In Athens (Hellas)

Reference works:

Technopolis City of Athens (2015) *Industrial Gas Museum | The Athens Gasworks. The history, the technology, the people, the museum*. ISBN 978-960-87271-4-4.
https://athens-technopolis.gr/index.php/en/industrial-gas-museum-shop

The Industrial Gas Museum's website includes personal photographic archives contributed by former workers.

The Vault of Industrial Archives (V.I.D.A.) provides an online map and database of Hellas, searchable by industry. The database entry for Athens' gasworks contains archive photos of the gasworks in operations from the 19th and 20th centuries, plus photos of the redeveloped site in 21st century.

The British School at Athens Archive also provides views of the gasworks' architecture from 1870s – 1880s (BSA SPHS 01/3734.C0916 and BRF WI.H-36).

Applying Aristotle to the Architecture of Industry: unity of action, place, and time

For Athens, I also experimented applying analytical concepts from Περὶ ποιητικῆς *Poetics* of Aristotle (written in 4th century BCE about ancient dramas that were performed in a theatre on the slopes of the Acropolis, close to the modern Technopolis site):

Miasma: contamination | *Catharsis*: purification

Mimesis: representation | imitation (e.g. in the window reflections of the industrial architecture)

Mythos ("structure of actions"): i.e. what is the best way to tell a story of the Architecture of Industry? There are several possibilities:

- chronologically? *(planning | construction | lifecycle (expansion) | decommission | abandonment | remediation | reuse)*
- structurally? *(building | function | process)*
- thematically? (*associations*)

For the *Opsis* ('spectacle') prescribed by Aristotle (unity of action, place, and time) I decided to group clusters of thematic associations, such as:

  - water | pipework
  - design | colours
  - obscuring | eclipsing | clarifying | revealing
  - observing | belonging

In Cambridge (UK)

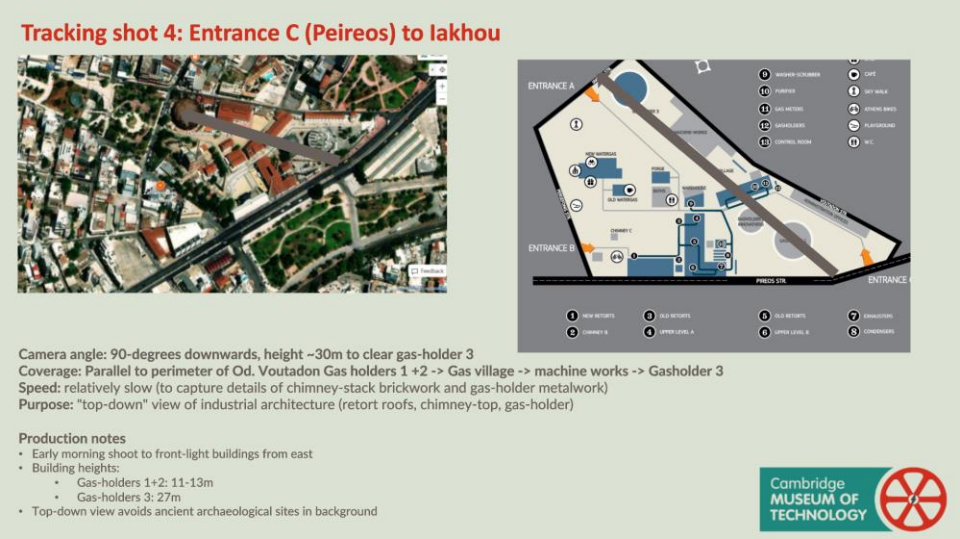
The Museum of Technology's website features videos about:

- the sewage-pumping station: (2021) *50 Years of Cambridge Museum of Technology: Past, Present and Future*
- the former gasworks: (2020) Town, Gown (and Clergy) in *Cambridge's First Industrial Revolution*
- a poem-video about restoration of the Babcock & Wilcox steam boiler: (2023) *Back in Steam* [open captions (UK English) here]

Resources for 'doing it yourself': recording and editing

παθείν μαθεῖν "To experience is to learn" (Aristotle fragment 15) | *"The best education in film is to make one"*
Commissioning a 2-hour drone shoot will cost upwards from several hundred euros (operator + insurance + drone-permit) in order to create ~10-15mins usable footage (for editing), subject to effective pre-production.

I worked with drone operators to prepare shooting boards | shoot lists, which enable productive shoots. An example slide from planning of the Athens shoot (with satellite map, indicating directions, position of sun, time of day etc.)



Shotcut video-editor (free, open-source) to create edited videos suitable for major internet video-hosting channels

Audacity: audio-editor

ABOUT THE FILM:

An Industrial Tale of Two Cities

Abstract

An immersive-video documentary that explores the retention, remediation, redevelopment and removal of industrial architecture in the cities of Athens (Hellas) and Cambridge (UK).

Both cities have millennia-old (pre) industrial histories, but do not tend to be strongly associated with "The Industrial Revolution" of the 19th century: architecture from other periods has (historically) taken preeminence, especially among (tourist) guides of the cities.
Yet both cities are home to significant examples of industrial heritage and host industrial museums: Cambridge Museum of Technology and Industrial Gas Museum at Technopolis Athens.

By juxtaposing "absence" (the redeveloped site of a former gasworks, adjacent to Cambridge Museum of Technology in UK) with the best-preserved architectural "twin" example of the industrial-gas-making process: Athens Technopolis (Hellas), the video explores the context of industrial architecture within the topography of "heritage cities", presented through archive photography, contemporary drone-videography and ambient-sound recordings.

Video Metadata

Edited and produced by Dr Gordon Davies for Cambridge Museum of Technology (UK) with co-operation of Industrial Gas Museum, Technopolis City of Athens (Hellas)

Videography and photography:

In Cambridge:

- Aaron Greenwood (Fledermaus Media) donated to the Museum of Technology

- Jemima Willcox, Matthew Power, Eleni Spathi for The Willcox Collective, commissioned for the Museum of Technology
- Mike Jesky with David Hotchkin, donated to the Museum

In Athens:

- Long Run Productions, commissioned with co-operation of Technopolis, City of Athens
- Eleni Spathi for The Willcox Collective
- additional research and photography by Dr Tulsi Parikh, British School at Athens

Soundscapes recorded by Long Run Productions | Tulsi Parikh (Athens) and Lewis Todd (Cambridge)

Extracts from poem-video *'Back in Steam'* (2023) written and performed by Dr Sarah Baylis, commissioned for Cambridge Museum of Technology

Accessibility: English (UK) language captions (multi-language automatic translation via YouTube)

Facilitation acknowledgements:

In Athens:

Industrial Gas Museum, Technopolis City of Athens | Hellenic Ministry of Culture | Hellenic Civil Aviation Authority | British School at Athens

In Cambridge: Cambridge Museum of Technology | Cambridge Industrial Archaeology Group | Mill Road History Society | Robinson College | Conservators of the River Cam | Cambridge City Airport | UK Civil Aviation Authority

Drones operated by qualified pilots under supervision of respective civil aviation authorities (UK CAA drone code | Hellenic CAA drone code)

Cambridge Museum of Technology | Industrial Gas Museum Technopolis City of Athens | Association for Industrial Archaeology

ABOUT CAMBRIDGE MUSEUM OF TECHNOLOGY

Cambridge Museum of Technology explores the city's industrial heritage from the steam age to semiconductors. Collections include engines, transport, printing, food production, power generation, ironworks, scientific instruments, medical devices, radio- and television-broadcast equipment: designed, built, used in Cambridge.

This independent, volunteer-led Museum, located in the Old Pumping Station, celebrated its 50th year of public opening in 2021. The Museum hosts Science, Technology, Engineering, Mathematics (STEM) education and Arts activities (performances and exhibitions), which combine to make the Museum's popular STEAM days, when the Museum's unique Hathorn Davey steam engines come back to life and stimulate all the senses: see, hear, feel and smell the city's industrial heritage!
The Museum also hosts Cambridge Industrial Archaeology Group, an affiliated society of the Association for Industrial Archaeology.

www.museumoftechnology.com

ABOUT TECHNOPOLIS CITY OF ATHENS

Technopolis City of Athens hosts an industrial past, cultural present and innovative future. A hub of cultural events, educational programs, entrepreneurship and exhibitions, Technopolis includes an Industrial Gas Museum, inaugurated in 2013, a unique monument of industrial heritage - the only preserved gasworks to have maintained its entire mechanical equipment in situ.

www.athens-technopolis.gr

ABOUT THE RESEARCH

Interpretations are the outcome of my own research and do not necessarily represent those of the Trustees of Cambridge Museum of Technology nor co-operating institutions such as the Management of Technopolis City of Athens

Drone videography [Cambridge, UK] commissioned and produced for Cambridge Museum of Technology (UK registered charity 1156685).

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Other sources as cited.

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Document history

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Version 1.2: revised and expanded filmography, January 2024

Version 1.3: added descriptions of documents about Beckton gasworks, publicly available online in metadata of The Stanley Kubrick Archive, January 2024