

CONSTRUCTING AUSTRALIA

TEACHERS NOTES

The Bridge

Politics, tragedy and conquest combine in stories behind the building of Australia.

The Bridge, Pipe Dreams and *A Wire Through the Heart* combine rare archival images with dramatic storytelling in showcasing three landmark events that would allow Australia to mark its place in the world. The Sydney Harbour Bridge, the Kalgoorlie Pipeline and the Overland Telegraph line were engineering triumphs, but the human drama in constructing Australia is even more fascinating...



FilmAustralia
Making History



The Bridge



SYNOPSIS

Celebrating the 75th anniversary of the Sydney Harbour Bridge, this is the definitive story of how a giant steel arch resembling a coat hanger became one of world's most recognised structures and an engineering triumph.

Massive, majestic and breathtaking, the bridge was the greatest engineering challenge of its day anywhere on earth. Nothing like it had ever been attempted in Australia. It not only altered the life of a city forever, it became a symbol of a bold young nation and a changing world.

And it was certainly visionary. At a time when there were only 30,000 cars and trucks in the entire city, the Bridge could carry 6000 vehicles and 160 trains every hour and all of Sydney's people could have easily crossed it in a single afternoon. With its graceful arch rising high above the famous harbour, it remained the tallest structure in the city until the late 1960s.

The tale of its construction combines immense practical problems and intense human drama; personal conflicts and political intrigues.

Completed during the dark days of the Great Depression and finished in March 1932, it is the legacy of a fateful partnership between two very different men—a brilliant engineer, J. J. C. Bradfield and a maverick politician, Jack Lang—who shared a relentless ambition to create 'the people's bridge'. Along the way, they managed to stir up more than one hornets' nest, both at home and in Britain.

Today, it is impossible to imagine Sydney, and Australia, without it, but as the film reveals, the bridge we know and love was at risk of not being built.

CURRICULUM LINKS

This program will have interest and relevance for teachers and students at upper primary, secondary and tertiary levels. Curriculum links include English, Media Studies and SOSE/HSIE, particularly in History.

HISTORICAL CONTEXT

The construction of the Sydney Harbour Bridge covered the period from 1922 through to its official opening on 19 March 1932. In the time it took to build the bridge, Australia and the world moved through recovery from the horrors of World War I into the Roaring 20s and then to the grim reality of the Great Depression.

The First World War (1914-18) had been destructive on so many levels. Like many of the countries involved, Australia had committed a generation of young men to the conflict. Many were destroyed physically, many more mentally. The Great War had destroyed the hopes of thousands of Australian families, just as it had destroyed the hopes of building the long dreamt of bridge across Sydney Harbour.

As Australian families attempted to rebuild their dreams and opportunities after the war, so too did Dr J. J. C. Bradfield, lead engineer in the NSW Department of Works. He had helped convince the NSW government in 1912 to commit to the building of a bridge across the harbour, but those plans were shelved with the onset of war.

The decade after the First World War became a boom period as Australian governments borrowed heavily for the construction of major projects that would provide the infrastructure for future economic expansion. This period became known as the Roaring 20s as it heralded the relaxation of social restrictions after the war. Jazz, dancing and smoking became popular at a time when Australia appeared full of promise.

Prosperity for many came crashing down in 1929 when the collapse of the American stock market in New York had worldwide repercussions. Banks around the world started calling in loans in a chain reaction. Located at the end of the chain, Australian governments found their economy shrinking, unemployment rising and British institutions demanding loans be repaid.

This was the historical backdrop for the construction of the Sydney Harbour Bridge. It had been a dream for over a century, was finally commenced in a time of optimism, and when it was finally opened, shone as a beacon of hope and a symbol of Australian determination in one of the nation's darkest hours.

- Activity. Using the 'Establishing a chronology' worksheet (see page 8), in groups, first research a wide range of local and international events that occurred during the building of the bridge, and then organise them into chronological order. As you watch *The Bridge*, place the significant events of the building of the bridge onto the right hand side of the timeline.

THE BRIDGE AND AUSTRALIAN IDENTITY

Obviously the Sydney Harbour Bridge is linked directly to the city of Sydney, but is always amongst the first suggestions when lists of Australian icons are being drawn up. Despite its location, the Sydney Harbour Bridge appears to be regarded as a national structure, part of what makes us Australian.

- As you watch *The Bridge* make a list of reasons why the Sydney Harbour Bridge is important to all of Australia rather than just Sydney.
- Use an image of the bridge to design two postcards advertising Australian tourism in both 1932 and 2007.
- How important do you think the building of the bridge was for developing a national sense of pride in the technical ability of Australia to produce major engineering works? What evidence to support your answer can you find in the film?
- Create an interview with one of the following figures at the opening of the bridge on 19 March 1932. Devise questions that will give the interviewee the opportunity to speak about the pride they feel in the achievement. Research is the best way to make sure your interview appears authentic. Choose from: Jack Lang; Dr Bradfield; Captain de Groot; a worker who helped build the bridge; someone who worked in Sydney but lived north, and had previously had to travel to work by ferry; a school child who had walked across the bridge in the days before its official opening; a visitor from interstate; a visitor from overseas.



- Argue for or against the accuracy of the statement: 'The building of the bridge became a symbol of a bold young nation and a changing world'.

THE POLITICS OF THE BRIDGE

The building of the bridge provides the backdrop for a particularly turbulent period of both national and state politics. The advent of the Great Depression found governments having to rapidly adjust from boom times to massive unemployment. The NSW Premier at the time, Jack Lang, believed that government had the responsibility to protect its constituents, and was prepared to default on loan payments due to Britain to maintain government spending and to keep people employed.

Lang had first become Premier in 1925, and during this initial period of government introduced wide ranging social reforms. The most popular legislation involved: a 44 hour working week; pensions for widows; workers' compensation; abolition of fees for state high schools and child endowment. Although he lost the 1927 election, Lang was again elected Premier in 1930, as the Depression really started to bite. As well as introducing legislation to limit evictions from houses to protect the poor, Lang continued to fund the completion of the bridge. His decision to stand against the federal Labor Party led to a split in the party and eventually, his removal from office by the Governor of NSW Sir Philip Game.

Lang's social welfare policies, which supported the working class over the wealthy industrialists, created many enemies. At a time that Australian politics was becoming divided, Lang became a figure of hatred for some of the more divisive groups in NSW. Extremist groups such as the New Guard, which was effectively a right wing private army, threatened violence against Lang and his supporters. It was a member of the New Guard that slashed the ribbon at the opening of the bridge.

- Research Lang's social welfare legislation. How much of it still exists today in some form?
- Discuss the idea that a government's greatest responsibility is to those who elect it.
- The film makes the point that one of the reasons the Depression hit Australia so hard was because the British sent us a 400 million pounds bill for the money Australia had borrowed to support Britain in World War I. Outline the arguments for and against the idea that paying this money should've been a priority for all Australian governments.

- Explain why the bridge was referred to as Sydney's 'Iron Lung' during the Depression. What does this tell you about the government's priorities?
- Research the history of the New Guard. Use that information to write an entry for the organisation in an encyclopaedia of Australian history.
- For class discussion: How close did NSW come to political violence and revolution in 1932?

THE ECONOMICS OF THE BRIDGE

The construction of the bridge was a massive investment for the NSW government. It was being built at the time of a transport revolution. The private automobile was emerging as a popular mode of transportation. Henry Ford's assembly line system of production meant cheaper prices, and Dr Bradfield insisted that the bridge be built for a future that included cars streaming over the harbour. He also insisted that it be part of an integrated transport system that linked with the city circle underground railway being built at the same time.

Bradfield's vision meant that it wasn't until 1992 that an extra crossing had to be constructed, when the harbour tunnel opened to ease traffic congestion on the bridge. The Cahill Expressway had added to the bridge's approaches in the late 1950s.

The agreed price of the bridge was 4,217,721 pounds 11 shillings and 10 pence, an astronomical sum for the times, and one that ensured that NSW would have to borrow heavily to finance the project. The payoff was to be the heaviest bridge in the world, a steel colossus that would bring the country international attention, link the two halves of the city, provide a massive employment boost and enable the city and its workers to function more efficiently.

An added cost was the destruction of significant areas of Sydney's heritage. The approaches to the bridge required the demolition of houses, churches and colonial era buildings in The Rocks area of Sydney were carried out with little or no compensation given. People were left homeless and even a social progressive like Jack Lang regarded the resumption of properties as a necessary price to pay for progress.

Sixteen lives were lost during the construction of the bridge. Workers were required to work without harnesses or restraints up to 90 metres above the water. Occupational health and safety was an unknown concept, and the steel was frequently slippery.

When the bridge opened the toll was sixpence for a

car and threepence for a horse and rider. The toll was paid to recoup the cost of building the bridge. It was finally paid off and since then the toll has paid for maintenance.

- Why would a city like Sydney need a bridge?
- In groups, organise a design competition for a transport plan for Sydney in the year 2050 that incorporates the bridge.
- What is occupational health and safety? How would the building of the bridge have changed if there was government legislation covering it in the 1920s?
- Debate the argument that the destruction of The Rocks was too high a price to pay for the bridge.
- Compare the destruction of The Rocks in the 1920s with the Green Ban activities of Jack Munday and the Builders Labourers Federation in the same area in the 1970s. Draw up lists of similarities and differences. Can you create a stronger case for one approach over the other?

REPUBLICANISM AND THE BRIDGE

One of the suggestions made in the film is that Bradfield changed the design of the bridge from a cantilever to single arched steel bridge after viewing New York's Hell Gate Bridge. This change required massive amounts of steel, which Bradfield sources in the smelters of Middlesborough in England where he discovers silicon steel. This is stronger than any previous type of steel and ensures that Bradfield is committed to having British firms involved in the project. When Dorman Long won the tender Australia's traditional economic and cultural links were firmly in place.

Australian workers were soon joined by stonemasons from Scotland and Italy, shipwrights from Belfast and furnace men from America. The building of the bridge was to be a hint of the Australia that would emerge after the Second World War.

Against that background, Lang's decision to suspend the payment of interest on NSW's loans had the potential to further divide local society. Lang was frequently accused of being a communist and the New Guard were prepared to support violence to keep communism out of politics.

Lang's decision to open the bridge rather than have a representative of royalty do it was an early recognition of Australian republicanism. This was Australia's greatest industrial project and the idea that an Australian politician would open it was quite revolutionary in a society that was still traditionally attached to Britain.

As Lang made it clear, his priority was with Australians rather than British shareholders. He was on a collision course with traditional power. In a game of brinkmanship it can be said that Lang lost. Although he did open the bridge, Francis de Groot got there first. Less than two months later Governor Game had sacked him as Premier.

Jack Lang represented an idea whose time had not yet arrived. He pushed ideas that were certainly republican without ever making that his agenda. By the end of the decade Australians were again fighting in Europe to support Britain. In 1954 the tour of Queen Elizabeth II created a social hysteria that showed a republican Australia was still a long way off.

When Australia rejected the republican model proposed in a referendum in 1999 it ensured that the Governor General of Australia, Sir William Deane, would open the Sydney Olympic Games in 2000 as representative of the Queen.

- What changes would have to be made if Australia was to become a republic?
- Who do you think should've opened the bridge in 1932?
- Do you think it is fair to call Jack Lang a republican? Which evidence supports your view?
- How does the film portray Sir Philip Game? Why did he sack Lang?
- Outline the main arguments for and against a republican Australia. How many of these would have been relevant in 1932?

HISTORY AND THE BRIDGE

Since its opening the bridge has become a focal point for celebrations and significant events. The official opening on 19 March 1932 is enshrined in Australian history because of Francis de Groot's action in cutting the official ribbon before Premier Lang.

The bridge was a focus of suicide attempts during its early years as the horrors of the Great Depression continued to impact upon many Sydneysiders. During the Second World War it provided an unmistakable landmark for a Japanese pilot scouting the harbour for the invasion of mini-submarines. It was during the war that it also provided a challenge for Australian, American and Dutch pilots, who are all alleged to have flown planes beneath its roadway.

In 1982 the bridge was closed for celebrations commemorating its 50th year, giving people the



opportunity to once again walk across its roadway. Six years later, as Australia celebrated the bicentenary of British settlement, the bridge was the focus of a massive fireworks display. This has gone on to become a regular feature of celebrations in Sydney, particularly on New Year's Eve.

A new chapter of interaction with the bridge commenced in 1998 when a company was given permission to conduct walking tours of the bridge, climbing to the very top of the massive arch.

With 2000 a focus of millennium and Olympic celebrations, the bridge was closed to allow an historic walk for reconciliation. This was part of a national campaign of recognition of the Stolen Generations of Indigenous Australians and over 200,000 people took the opportunity to walk across the bridge and signal their support of reconciliation in Australia.

For the bridge's 75th anniversary in 2007 the bridge was closed for the longest period in its history to allow as many people as possible the opportunity to walk across it. The size and importance given to the celebrations reflects the critical place the 'coathanger' plays in Sydney and Australian life.

- As a class, create a newspaper for 20 March 1932. The front page should convey the excitement of the official opening while also capturing the confusion caused by de Groot's actions. Other sections could include fashion, entertainment, interviews, illustrations, world news, local and national news and sport.
- There are stories that a number of planes have flown under the bridge. Use your research skills to find out if there is evidence to support these stories.
- Outline the differences between the ways bridge walkers travel on the bridge today compared to those workers who constructed the bridge.

- Research one of the New Year's Eve celebrations that have been focused on the bridge. What was the message/symbol for the celebration? Why was it chosen?
- Design a web page advertising the 2032 celebrations for the centenary of the bridge.

THE MEDIA AND THE BRIDGE

When something has become as culturally, socially and economically significant as the Sydney Harbour Bridge, it tends to take on a role that seems 'larger than life'. A quick and unsophisticated web search for 'Sydney Harbour Bridge' will return nearly one and a half million potential sites in seconds. Newspapers will run 'what if' stories about the bridge and any anniversary will guarantee saturation media coverage. The 75th anniversary in 2007 is an excellent example of this.

- Create a Sydney Harbour Bridge through time presentation that captures what the bridge means to Sydney and Australia. Choose a presentation format that will give you the opportunity to convey your ideas in the most creative way. The site www.sydneyharbourbridge.info has some illustrations of the building of the bridge to help you get started.
- The Sydney Harbour Bridge can form the basis of a range of speculative history. Discuss the following scenarios as a group: what Sydney would be like if the bridge had never been built; the chances of a bridge

like this being built today; how different would things be if Jack Lang had suspended the building of the bridge to help pay back loans to Britain; the impact if the Japanese submarines that invaded Sydney in 1942 had caused the bridge to collapse; design options to remodel the bridge if the level of Sydney Harbour rises because of a dramatic increase in global warming.

- Design a presentation to FIFA (the international football federation) to put the case for Sydney to host the World Cup in 2018. Think about the role the bridge could play in selling Sydney to the federation.
- Anniversaries become a way of retelling the story of an iconic structure like the Sydney Harbour Bridge. Think of a way you could create an original celebration of the bridge's 75th anniversary.
- Use the internet or a local library to research the way the media has portrayed the Bridge over the years. What themes have been consistently used?
- Conduct a web search of images of the bridge. Select 10 different ones and explain what they convey about the bridge's place in Sydney and Australian life.
- Debate the suggestion that the Sydney Cricket Ground is a more iconic structure than the Sydney Harbour Bridge.
- Devise a slogan that you think sums up the place of the Sydney Harbour Bridge in history.



REFERENCES AND FURTHER RESOURCES

Books

Keith Amos, *The New Guard Movement 1931-1935*, Melbourne University Press, Melbourne, 1976

Robert Billington and Sarah Billington, *The Bridge*, Peribo, Mount Kuring-gai, 1999

Frank Cain, *Jack Lang and the Great Depression*, Australian Scholarly Publishing, Melbourne, 2005

David Ellyard & Richard Raxworthy, *The Proud Arch: The Story of the Sydney Harbour Bridge*, Bay Books, Sydney, 1982

Richard Evans and Alex West, *Constructing Australia*, The Miegunyah Press, Melbourne, 2007

Beth Godwin, *The Sydney Harbour Bridge*, Cambridge University Press, Port Melbourne, 2003

Peter Lalor, *The Bridge: The Epic Story of an Australian Icon: The Sydney Harbour Bridge*, Allen & Unwin, Crows Nest, 2006

J. T. Lang, *I Remember*, Invincible Press, Sydney, 1956

Peter Luck, *The Sydney Harbour Bridge: 75 Fascinating Facts*, New Holland, Frenchs Forest, c. 2006

Caroline Mackaness (ed), *Bridging Sydney*, Historic Houses Trust of New South Wales, Sydney, 2006

Andrew Moore, *Francis De Groot: Irish Fascist, Australian Legend*, The Federation Press, Sydney, 2005

Andrew Moore, *The Secret Army and the Premier*, New South Wales University Press, Sydney, 1989

Michael Moy, *Sydney Harbour Bridge: Idea to Icon*, Alpha Orion Press, Ashgrove, Qld, 2006

Bede Nairn, *The Big Fella: Jack Lang and the Australian Labor Party, 1891-1949*, Melbourne University Press, Melbourne, 1986

John Nicholson, *Building the Sydney Harbour Bridge*, Allen & Unwin, St Leonards, c. 2000

Ursula Prunster, *The Sydney Harbour Bridge 1932-1982: A Golden Anniversary Celebration*, Angus & Robertson in association with the Art Gallery of NSW, Sydney, 1982

Heather Radi and Peter Spearritt (eds), *Jack Lang*, Hale and Ironmonger, Neutral Bay, 1977

Richard Raxworthy, *From Footbridge to Harbour Bridge: The Life and Works of J. J. C. Bradfield*, Bridge Climb, Sydney, 1999

Peter Spearritt, *The Sydney Harbour Bridge: A Biography*, University of New South Wales Press, Sydney, 2007

Gerald Stone, *1932: A Hell of a Year*, Pan Macmillan Australia, Sydney, 2005

Brian Wright, *In the Name of Decent Citizens: The Trials of Frank De Groot*, ABC Books, Sydney, 2006

Websites

NSW Department of Education and Training, NSW Constitution Website Issues—see #2: The Role of the Premier [Dismissal of Premier Jack Lang]

<http://www.schools.nsw.edu.au/nswconstitution/html/5th/bgr/overview.html>

NSW Labor—see Students Area

www.nswalp.com

Parliament of NSW—see Information Resources

www.parliament.nsw.gov.au

Constructing Australia: The Bridge

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Writer/Director: Simon Nasht

Producers: Simon Nasht, Renee Kennedy

Executive Producer: Alex West

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Establishing a chronology

YEAR	WORLD EVENTS	THE BRIDGE
1922		
1923		
1924		
1925		
1926		
1927		
1928		
1929		
1930		
1931		
1932		

Following is a list of events that occurred between 1922 and 1932. Use research to place them on the timeline, then, as you watch *The Bridge*, place significant events from the building of the bridge on the opposite side.

Alexander Fleming discovers penicillin
 Charles Lindbergh flies *The Spirit of St Louis* to make the first solo non-stop crossing of the Atlantic Ocean from New York to Paris
 The first Academy Awards are presented
 Don Bradman tours England for the first time
 Phar Lap dies
 Adolf Hitler's beer hall putsch which attempted to take over the Bavarian government fails
 The Empire State building opens in New York
 A mob riot takes place in Melbourne after police went on strike for a pay rise of a shilling a day
 The first air mail delivery from England to Australia takes 18 days
 Andrew 'Boy' Charlton breaks four world records in winning the 1500m freestyle at the Paris Olympic Games
 Leader of the Russian revolution Vladimir Lenin dies
 NSW Premier Jack Lang is sacked
 Screen actor Rudolf Valentino dies
 Tutankhamen's tomb is discovered by Howard Carter
 The film industry is revolutionised by the introduction of talking films
 Cadbury's starts production of its Dairy Milk Chocolate at Claremont in Tasmania
 The Wall Street Crash
 The first World Cup in football is held
 The first issue of Reader's Digest is published
 Commercial radio starts in Australia with Radio 2UE

Comparison study

- The Empire State Building in New York played a similar role in the United States of America, commencing as a visionary project during boom times, and being completed during the Depression as a beacon of hope. Research the building of the Empire State and list the similarities and differences you can find when comparing it with the Sydney Harbour Bridge.