

TALKING MACHINES

Talking Machines Education Resource

Theme: Innovation & Imports

Film Title- Howard Rotary Cultivator and DH22 Tractor
(Museum of the Riverina- Wagga Wagga)

About the Clip:

Synopsis: The film tells the story of the development of the Rotary Cultivator, inspired by a steam engine in 1910, and the first prototype developed in Cliff Howard's spare time by 1912. At the time this technology was quite new and revolutionised the industry. The Howards DH22 Tractor followed just ten years after.

Duration: 6.22 mins

Study Module:

Curriculum Focus: History – NSW Syllabus for the Australian Curriculum

Year: 9 (Stage 5)

Strand: Historical knowledge and understanding; Historical inquiry and skills

Theme:

- Depth Study 1: Making a Better World? – The Industrial Revolution (1750 – 1914)

Key Concepts:

- Evidence; continuity and change; cause and effect; perspectives; significance

Curriculum Applicability:

- The technological innovations that led to the Industrial Revolution (**ACDSEH017**)
- The nature and significance of the Industrial Revolution and how it affected living and working conditions, including within Australia (**ACOKFH016**)
- The emergence and nature of significant economic, social and political ideas in the period, including nationalism (**ACOKFH019**)
- The experiences of men, women and children during the Industrial Revolution, and their changing way of life (**ACDSEH081**)
- The short and long-term impacts of the Industrial Revolution, including global changes in landscapes, transport and communication (**ACDSEH082**)
- Living and working conditions in Australia around the turn of the twentieth century (that is 1900) (**ACDSEH090**)

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Historical Skills:

- **Chronology, terms and concepts**
 - Use chronological sequencing to demonstrate the relationship between events and developments in different periods and places **(ACHHS164)**
- **Analysis and use of sources**
 - Identify the origin, purpose and context of primary and secondary sources **(ACHHS169)**
 - Evaluate the reliability and usefulness of primary and secondary sources **(ACHHS171)**
- **Perspectives and interpretations**
 - Identify and analyse the perspectives of people from the past **(ACHHS172)**
 - Identify and analyse different historical interpretations (including their own) **(ACHHS173)**
- **Explanation and communication**
 - Develop texts, particularly descriptions and discussions that use evidence from a range of sources that are referenced **(ACHHS174)**

General capabilities:

- **Critical and Creative Thinking**
 - Developing questions about aspects of the past that require historical argument
 - Identify and clarify information and ideas
 - Organise and process information
- **Personal and Social Capability – social awareness:**
 - Appreciate diverse perspectives

Context/ Background Information:

Rotary cultivators (also called rotary hoes, motorised hoes, rotovators or rotary tillers) applied power directly to tillage. The rotary cultivator was invented by Arthur Clifford Howard of Gilgandra, NSW, in 1912. The advantages of rotary cultivators over normal ploughing for preparing soil was the ground could be tilled without packing. The rotary cultivator attachment for tractors cultivated a strip of up to 5 feet with an implement pulled and powered by a tractor. These were not as successful as an implement for cultivation as the walk-behind self-propelled types.

Talking Machines: reviving Riverina rural technology collections with video testimonies, captures the histories and stories of generations of Australian men and women who farmed the Riverina, through the rusted metal frames and once sharp blades of dormant farm machinery they used. The project creates a series of thematic trails across the Riverina and key objects have been selected to support the development of these themes which in turn speak to Australia's role in the industrial revolution- this is the focus of an educational resource. Australia's role in the industrial revolution and the impact of the revolution is little documented in Australian education resources- these films provide an access point for teachers on examples of the impact of the revolution upon rural Australian society. It should

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be noted that the full impact in Australian society occurred after the curriculum notes on the European based experience- thus date relating to the manufacture and use of some equipment may not align with those published in the curriculum.

Discussion Pointers:

- How important is a local manufacturer to the community, what made them grow, and how has their role in the local community / contribution to the industry changed (they aren't there any more)?
- What made/makes local inventors so creative in their response to the challenges in their local environment? How did they overcome/manage the problem and move forward?
- What enabled them to move forward (market forces, development of railways transport infrastructure systems, refrigeration etc)? What's a local example of overcoming a similar problem?

Suggested Classroom Activities:

- Make a site visit to the museum. Talk to the curator.
- Go behind the scenes with local industry/industry representative.
- Be a rural reporter – role play and/or report on their invention, what does it do?
- Make a visit to the local men's shed and chat to the participants about problem about problem solving and inventing.

More Information, Contact Details & Arrangements for Visits

The Museum of the Riverina is open 10am to 4pm from Tuesday to Saturday and 10am to 2pm on Sundays (closed Mondays).

The Museum has two sites

1. The Botanic Gardens Site is located on Lord Baden Powell Drive, Willans Hill in Wagga Wagga. Phone: (02) 6926 9650.
2. The Historic Council Chambers Site located at the corner of Baylis and Morrow Sts, Wagga Wagga. Phone: (02) 6926 9655.

Further information on visits and education programs can be obtained by emailing the museum at- museum@wagga.nsw.gov.au or check out the website - <http://www.museumriverina.com.au/>.