

NCCD Education Pack
Supporting material for
Anton Alvarez:
Alphabet Aerobics

**The
National
Centre
for
Craft
& Design**

Key Stages
2/ 3/ 4/ 5/
undergraduates



19 Mar – 5 Jun 2016

About The National Centre for Craft & Design

Established in 2003, our mission is to be a world-class centre dedicated to the celebration, support and promotion of national and international contemporary craft and design. We aim to stimulate greater understanding of contemporary craft and design, providing enriching arts and cultural experiences for everyone, through a dynamic programme of high quality exhibitions, participation and retail.



Image courtesy of Mirela Vilaj.

The National Centre for Craft & Design (NCCD) is the largest venue in England entirely dedicated to the exhibition, celebration and promotion of international and national craft and design.

Since 2003, NCCD has developed a highly respected exhibitions programme that presents exciting, enlightening and accessible exhibitions that open up new understandings of contemporary craft and design practice. We seek to exhibit and promote the most innovative, challenging and accomplished artists practicing today and we take pleasure in exhibiting work that blurs the boundaries between craft, design and fine art. With a focus on the contemporary, NCCD showcases the work of established, significant and international names whilst maintaining a commitment to emerging talent and the presentation of new movements.

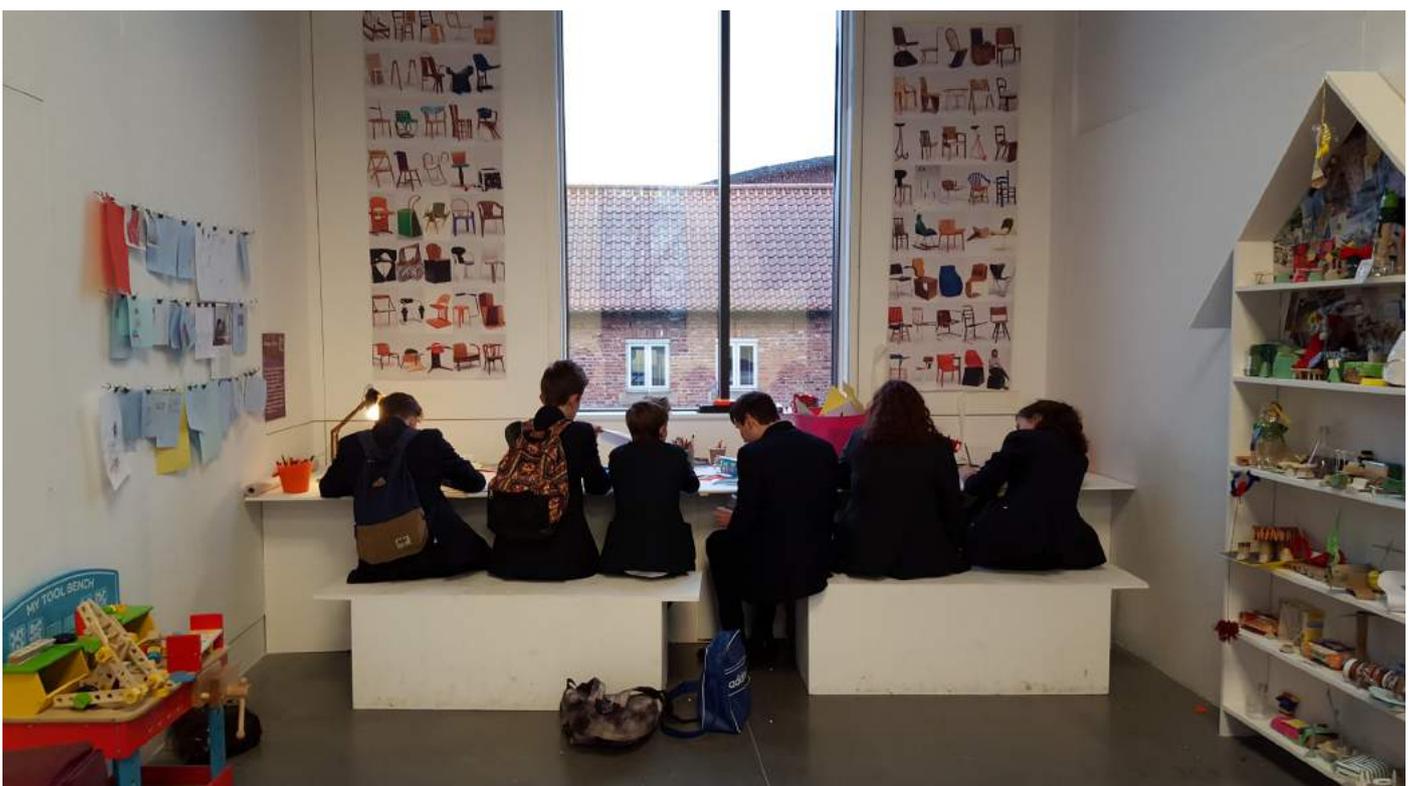
The concepts and themes from our exhibitions are used as the starting point for further investigation and engagement through a high quality programme of learning and education opportunities including talks, workshops, conferences, symposiums, professional development, short courses and demonstration days.

We also operate a successful touring programme which seeks to extend the life of our exhibitions and allows us to build new partnerships across the UK and overseas.

The National Centre for Craft & Design is operated by Leisure in the Community Trust and managed by North Kesteven District Council. NCCD is a National Portfolio Organisation of Arts Council England.

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Introduction

NCCD offers students and educators the opportunity to explore the demands of the national curriculum in a safe, stimulating and vibrant environment enabling a multi-faceted kaleidoscopic approach to learning – educating through observing, creating and reflection and review.

Our main gallery exhibition programme lends itself perfectly to curriculum specifications which state that students should have the opportunity to use creativity and imagination and to apply knowledge from other disciplines including mathematics, science, art and design.

Inclusive Education

NCCD offers a safe and supportive environment with which to meet the needs of learners.

Our three bespoke packages, Bronze, Silver and Gold, follow the 'Blooms Taxonomy' approach to learning whereby students learn through doing - remembering, understanding, applying, analysing and evaluating.

The exhibition can help to develop aspects of the curriculum in the following areas:
Key Stages 2, 3 and 4 (Art and Design, Mathematics, Science, Design Technology, History and English Literacy) and Key Stage 5 and undergraduate study.

Get in touch if you would like more information and to discuss the specific needs of your group. We welcome all groups (of all ages and abilities) to spend as long as you like at NCCD and are flexible with our offers. Please contact Caroline by email learning@nationalcraftanddesign.org.uk or call **01529 308712**.

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Admission to NCCD is free.

This research pack is intended as a private resource, to be used for internal educational purposes only. As such, the images included within this pack are for internal use only and may not be copied, distributed or used for any other purposes without appropriate permissions being sought. This pack was commissioned by The National Centre for Craft & Design and was researched and written by Emma Verity, Arts and Education Consultant.



Supported by
**ARTS COUNCIL
ENGLAND**

10 Excellent reasons why you should visit The National Centre for Craft & Design:

1. You will be confident in your knowledge that you are meeting the needs of the creative child in your school.
2. By visiting your local exhibition centre 'The National Centre for Craft & Design', you will be encouraging active participation from your students whilst fulfilling many of the requirements of Arts Award and Arts Mark.
3. Through accessing the learning resources provided and stimulated by the exhibition, you will be facilitating your students' learning progression over time, through encouraging active learning between lessons.
4. Active participation creates healthy, independent learners with resilience and pride in achievement.
5. The exhibition and related cross curricular teaching and learning ideas available from the centre, encourages curiosity and real engagement with learning.
6. You may be facilitating the next greatest British designer, inventor, engineer, artist, mathematician or medic.
7. You will be facilitating your students with opportunity to view and participate with international, national and local artists, fulfilling many of the criteria from subject specifications.
8. You will be opening your students' eyes to a possible career in the creative industries – the fastest growing sector in the economy at present.
9. You could be providing very cost effective training for your staff to increase their skill base and generate practical creative ideas for classroom use.
10. As an educationalist, you may be interested to know that Ofsted's recent findings indicate a significant correlation between a school's arts provision and their overall grading as 'Good' or 'Outstanding'.



How to use this pack

This pack is designed to be used by teachers, educators, curators and exhibition staff. Ideas are informed by National Curriculum requirements and Ofsted subject guidance.

The following three bespoke packages can help teachers, educators and learners have a high quality learning experience at NCCD, and also inform an independent visit.

GOLD (£250+)

- Up to 5 hours participatory workshop led by a professional artist.
- A Tour and Draw session led by a member of our Artistic team (optional).

SILVER (£100 - £250)

- A 2 hour participatory workshop led by a professional artist.
- A Tour and Draw session led by a member of our Artistic team (optional).

BRONZE (£2 pp)

- A Tour and Draw session with a member of our Artistic team.

Access

Admission to NCCD is free. All floors and spaces in the centre are fully accessible to wheelchair users.

Lunch

A lunch room can be booked, or our Riverside café can provide healthy lunches at an additional cost. Weather permitting, groups also have the option to picnic on Eastgate Green adjacent to the centre.

Capacity

Our workshop has capacity for 25 people. For larger group visits, students will be split into groups.



Anton Alvarez Education offers

GOLD offer includes:

- A participatory workshop, choose from:

1) Drawing Robot.

Students will work with artists specialising in electronics and programming to create a Drawing Robot! The ShonkBot uses a programmable Arduino micro controller to create an autonomous drawing robot that workshop participants can build and keep. Participants can work individually or in a group to create a robot to share. £325 + additional cost of £20 per kit (1 kit equals one robot). 4 hour workshop, split between two groups with 12 students in each group (maximum capacity for full day is 24 students). Participants can work in teams on a shared robot or individually.

2) Explore Concepts for Design, Assembly & Prototyping a Musical Instrument.

Spend the day with James Muxworthy (Helical Blue Ltd) looking beyond the obvious using science and maths to inspire and progress creative ideas, music and visual art. The workshop looks at the process of design and the importance of prototyping ideas by investigating a potentially 'new' string instrument based on the hammered dulcimer. This will be explored by using mathematical sequences e.g. Fibonacci sequence and how we can relate them to sound and music. The students will work in small 'design' teams on an instrument. The workshop will be delivered with a level of challenge suitable for each Key Stage. £300 for 25 students, up to 5 hours.

- An optional Tour and Draw session led by a member of our Artistic team. Teachers can also explore ideas from the Themes and Projects section of our education pack.

SILVER offer includes:

- A participatory workshop led by a professional artist, chose from:

1) Graffiti Art (KS1 - 4)

James Mayle (Imageskool LTD) will lead a graffiti art marker workshop inspired by Anton Alvarez's exploration of the alphabet. Students will use markers and ink on card to produce individual artworks, exploring shape, style, pattern and form to sculpt graffiti letters.

£300 for 25 students, 3 hour workshop.

2) Explore Concepts for Design, Assembly & Prototyping a Musical Instrument (Upper KS2 - 5)

Work with James Muxworthy (Helical Blue Ltd) looking beyond the obvious using science and maths to inspire and progress creative ideas, music and visual art.

£200 for 25 students, 2 hours.

3) Digital Sound & Projection Installation (KS3 - 4)

Sam Metz will show students how to make a marble run sculpture to capture movements and sounds of machines. Recordings of these sounds will be used to produce a collaborative installation; the workshop also involves: coding the sounds; building installation space; creating text, images and sketches to project in the space.

£175 for 2 hours.

- An optional Tour and Draw session led by a member of our Artistic team. Teachers can also explore ideas from the Themes and Projects section of our education pack.

BRONZE (£2 per pupil)

- Tour and Draw session with a member of our Artistic team. Suitable for all ages and abilities.

Background to the exhibition

Artist Biography - Anton Alvarez (b.1980 Sweden).

Anton Alvarez is a Swedish-Chilean designer and is based in London and Stockholm. A graduate of the Royal College of Art's Design Products MA (2012), Alvarez originally studied Fine Art and cabinet making before completing an Interior Architecture and Furniture Design course at Konstfack, the University College of Arts, Craft and Design in Stockholm.

Over the past few years, Anton Alvarez has proven to offer distinctive and unique artistries, with a practice intersecting design and contemporary art. His works includes the ingenious invention *Thread Wrapping Machine*, a tool he made which allows various materials to be joined together with coloured and glue-coated thread and which creates furniture and design objects that clearly demonstrate the maker's method. His work has had global recognition. Focusing on the design of systems and the creation of tools and processes for producing products, Alvarez's work has been exhibited internationally, including at the Design Museum and the Victoria & Albert Museum, London.

Curator Statement – Bryony Windsor, Head of Exhibitions at The National Centre for Craft & Design

This Spring, our Main Gallery will be transformed into a working ceramics factory by Swedish-Chilean sculptor, Anton Alvarez.

Following his Masters at the Royal College of Art, London, Alvarez dedicated three years to The Thread Wrapping Machine and in 2015 embarked on a new ceramics project, *Alphabet Aerobics*. Alvarez has embraced the challenge of designing an autonomous manufacturing system that goes one step further than *The Thread Wrapping Machine* by removing the artist from the making process entirely; liberating him and questioning the role of maker, artist and curator.

The exhibition provides visitors with a unique opportunity to witness ground-breaking innovations in craft and design; pushing the boundaries of what it means to be a sculptor. To form the exhibition Alvarez's machine will produce one sculpture a day and we can confirm that an additional one will be made exclusively for each school visit.



Key Ideas from Anton Alvarez *The Thread Wrapping Machine* published by Arvinius+Orfeus

The maker as medium

Alvarez speaks of inhabiting the mentality of someone who builds, with the object revealing itself to him through the process of making:

'in the act of actually making something, the object has the potential to become something greater than my imagination could have possibly come up with'.

Rather than the goal of the work, what is produced are by-products; it is the process of making rather than the objects themselves, which determines the evolution of machine and technique.

New methodologies: thread, paint and fabric as joints

Julie Cirelli in conversation with Anton Alvarez: Alvarez's process evolved from a ritual of the daily creation of one object, labelled and dated and catalogued carefully for larger pieces.

'Setting parameters is a structuring element of the daily practice of making'.

A rejection of previous knowledge allows Alvarez to be free of the expectations of others and to own his own techniques. A trained woodworker and cabinet maker by trade, Alvarez has an interest in traditional wood joining and how elements come together. He created a process where the joint became the focal point of the final object.

A focus on method

Alvarez speaks of the importance of maintaining a *'level of abstraction, to not get distracted by elements of functionality, beauty or tradition'.*

Furniture became the surface on to which Alvarez projected the technique upon.

Contemporary Design

'the tool is talking about the piece, and the piece in turn talks about the machine that made it.'

It was at Konstfack, that Alvarez began to question the limitations of a design brief. He began to interpret the objects and their production more widely. Alvarez began the development of the design and prototype for his first Thread Wrapping Machine, at the Royal College of Art in London. Developing the machine himself, meant that Alvarez could create his own theory about his work which allowed him to fit onto the spectrum of contemporary design.

Machines as extensions of the human body

'It is not the machine that creates things but what the body does with the machine. All machines are versions of human movement'.

'I am drawing in three dimensions...my machine is also drawing something by giving a physical dimension to my ideas'.

'The work in this exhibition evolved from the machine itself, and the relationship between me, the machine and the objects in the room'.

Expansion of Form

Design practice is observable from the outside, as architecture, the installation becomes spatial and one that can be experienced and entered from the inside.

The exhibition became one of architectural scale. An understanding of the building of furniture and its structural aspects enabled the exploration of architectural aspects. As he worked, Alvarez discovered things to apply to the structure to give it the final form.

Themes and project ideas

This section of the pack outlines some of the curriculum areas relevant to the exhibition and ideas to investigate further through classroom projects.

- Visual Learning: Exploring the Exhibition
- Art and Design
- Mathematics / Science
- English Literacy
- History
- Design Technology



Image by Anton Alvarez.

Visual Learning Model: Exploring the Exhibition

Philosophy behind the work of Anton Alvarez; The Big Ideas:

'How we see things, how we name them, how they see themselves, how they appeal to us'.

'Learning by doing, maturing by witnessing remain the great forces by which technologies regenerate. Baby children desire language, artists hope against hope to invent new languages, to learn to say new things. To hear back from audiences'.

Richard Wentworth 13/08/14 Foreword in *'Anton Alvarez: The Thread Wrapping Machine'*.

The importance of developing a visual thinking model in learners:

When looking at the exhibition, you may find these suggestions and general discussion points useful.

- Via meta-learning: learners become able to reflect on and articulate their own learning, during and after the event.
- Curriculum links/Key Skills: Cross-curricular literacy; speaking and listening.
- Observational Skills: observing, describing and interpreting visual information.
- Analytical Skills: experience in contemplating various data and weighing perceptions, facts and opinions in order to make informed judgements.
- Deductive Reasoning: gathering clues, building evidence and framing conclusions.
- Creative Expression: expressing objective response to art works, which involves reasoning, yet is open-ended.
- Individual and Group Communication Skills: articulating ideas and opinions; learning to listen and respond to others.
- Historical Knowledge: acquisition of factual knowledge about art; how to use art as a primary source of information.
- Collaboration: shared knowledge is generated through building of trust which comes from effective communication and working together in a supportive atmosphere enabling confident voices.
- Responsibility: learners are involved in the initiation, direction, control and evaluation of their own learning.

Suggested activity ideas: ALL Key Stages (KS)

- Learners take the role of a reporter and interview the artist/gallery assistant with key questions. Answers can be filmed or recorded for future report writing or notes for own design ideas.
- Design Detectives: learners can be tasked with individual key questions to explore. The group come together and compare findings.
- Pupils could make drawings in sketchbooks of part of the exhibition which they are drawn to. Observe how the learners group themselves. Groups can then talk about and note down what they like in the exhibition. Encourage a range of vocabulary –nouns, adjectives, verbs, adverbs to describe the exhibition.


KS2/3
Discussion points:

- Look at the exhibition in terms of what it is telling us – its content, message (i.e. what could it stand for or symbolise), title, theme and type/genre.
- Consider what can be understood through looking at the formal qualities of the work, i.e. colour, shape, marks, surface, scale, space, materials, process, composition.
- Context: challenge the notion that reading a work in terms of the artist's biography or an assumption of what the artist's intentions. This is not the only way of gaining meaning. It is relevant to look at a work in the wider context of when and where it was made and to consider how the present climate informs our reading of a work. (It is also important to take into account the gallery and the information presented within it).
- Encourage students to look hard to form their initial ideas.
- Question their first responses.
- Develop their personal interpretations with external knowledge and contextual concepts.
- Reflect on the learners' own experiences and articulate their concerns which surround the exhibition in relation to their prior understanding of design.
- Reveal the work's complexity and enable each learner to have a richer experience of it.
- A personal approach what do I bring? 'I feel...' invite learners to share their reactions; encourage learners to acknowledge and express their felt response.
- What is it about?
- What can I see? 'I can see...' challenge the learners to see more and more detail to develop the powers of observation.
- What is the work's relationship to the wider world? Encourage speaking the language of art; Consider the relationship of art to the viewer; give space to discuss response to art Q+A to artist and by artist.
- 'I think...' learners share their ideas about the exhibition; expressing opinions – the why and how?
- 'I wonder....' The 5 w's , 'where...', 'how...', 'who...', 'why...' 'what?' encourage further research.


**KS4/5/
undergraduate**
Discussion points:

- Interpretation can be undertaken from a number of theoretical positions rather than being determined by the art historical canon (feminism, postcolonialism, formalism, the political and social, semiotics and iconography)
- Alvarez has spoken of how he misses the sense of belonging to and being a part of an artistic community, citing the example of being a graffiti writer as a teenager. How much does his approach now relate to these earlier years?

Art and Design

Curriculum content:

Use 2D - 3D drawing or sculpture to develop and share ideas, experiences and imagination. Develop techniques in pattern, line, shape, form and space. Describe similarities and differences with the pieces seen at the exhibition with prior knowledge of design. Use sketchbooks to record, review and revisit ideas. Respond to feedback; identify potential for future development.

Suggested activity ideas:

- Research how technology is depicted in art.
- Consider the differences and similarities between architect and sculptor and maker.



**KS2/
3/4**

Discussion points:

- Describe the similarities and differences with the piece seen in the exhibition with your prior knowledge of design.
- How far do you agree that design is a problem solver?



**KS4/5/
undergraduate**

Discussion points:

- Has Plato's unattainable image of beauty glorified intellectual thinking at the expense of the practical and the artistic?
- Is design culture elitist and alienating?
- Discuss the idea that contemporary design necessitates finding methods and techniques to increase diversity and styles of design.

Mathematics / Science

Curriculum content:

Investigations in and appliance of: Measurement; Geometry; scaling drawing; graphic presentation of design ideas and communicating intention to others- cross-sectional and exploded diagrams; prototypes; analysis and presentation of performance data and survey responses.

Suggested activity ideas:

- Prepare a short report that includes the following information:
 - Name the six categories of simple machines.
 - Explain how each of the six simple machines work.
 - Give an example and draw a diagram of each of the six simple machines.
 - Use the following words in your report: force, gravity, motion, friction.
- Choose one of the following places where simple machines are used:
 - Garden, farm, kitchen, restaurant, office, school, garage, workshop, boat, playground, amusement park, etc.
 - Name five (non-electrical) machines that are used there.
 - Draw a diagram of each.
 - Label the machines that make up each one.
 - Invent and build a new machine that can be used in the place you have chosen.
 - Be prepared to demonstrate its use and explain how it works.
 - Consider what mechanical advantage the design for your machine has.



**KS2/
3/4**

Discussion points:

- $\text{work} = \text{force} \times \text{distance}$. How can this theory be applied to the exhibit you see?
- Why do engineers care about simple machines? How do such devices help engineers improve society?
- Consider how the same physical principles and mechanical advantages of simple machines used by ancient engineers to build pyramids are employed by today's engineers to construct modern structures such as houses, bridges and skyscrapers.
- Explore how simple machines give engineers added tools for solving everyday challenges.

English and Literacy

Curriculum content:

This colourful and surprising exhibition from this 'Intergalactic Craftsman' is the perfect environment to stimulate writing in a range of styles – creative, evaluative and informative. The experience will also help to develop a working vocabulary with specialist terminology and give opportunities for speaking and listening.

Suggested activity ideas:

- Writing in the fantasy genre: '*Intergalactic Craftsman and his Futuristic Spinning Machine*'.
- Write a news report telling the world about the new inventions include interviews with specialists and non specialists and their opinions.
- Write up a scientific evaluative report which includes the processes and stages of your design and model using appropriate scientific vocabulary.
- Animation: design a storyboard and create a film for your new invention in the style of Wallace and Gromit '*The Wrong Trousers*'.

**KS2/
3/4**

Discussion points:

- Present your design plans to your peer group and ask for feedback.
- Share your findings from the day in the form of a presentation to a specific audience.
- Read Carmel McNamara's article in the *Frame* magazine and use as a stimulus for a piece of writing in the science fiction or fantasy genre. Ref: *Thread Wrapping by Anton Alvarez: Intergalactic Craftsman and his Futuristic Spinning Machine* January 07, 2015.



Design Technology

'In the act of actually making something, the object has the potential to become something greater than my imagination could have possibly come up with'.

(Anton Alvarez)

Curriculum content:

Investigate new and emerging technologies; understand developments in DT, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists; building of structures, exploration of strength and stability; explore and use mechanisms.

In particular, Anton Alvarez's exhibit allows students to develop their knowledge of the application of the function of mechanical devices to produce different sorts of movement, changing magnitude and direction of forces.

Key words: sculpture; sculptor; architect; architecture; space; spatial; observe; observation; subjective; objective.

Suggested activity ideas:

- Make: designs for an automated machine; construct a model using a combination of materials; create opportunities for children to design and make real objects. Creating an understanding of the material properties as well as the challenge of shaping, fitting and finishing to a desired form.
- Encourage a focus on the conceptual underpinning of design by an open-question approach, using only a few materials available in a stationery shop—paper, glue, tape, pens, cardboard, rubber bands. Use a minimalist approach. Keep a diary and review the conversations and conclusions of the process.
- Identity detectives – designed objects define the environment we are in; objects absorb the characters of their users as well as the designers who make them. Explore how everyday objects are able to activate processes of meditation, discovery and surprise.

**KS2/
3/4**

Discussion Points:

- Identify what products have been invented as by-products of new technology.
- Is the maker influencing society or society influencing the maker? What new developments are happening in design technology and why? Can you predict the top ten development trends for 2016 - 17?
- Explore how to apply traditional skills with new ways of looking at problems.

**KS4/5/
undergraduate**

Discussion Points:

- Man versus the machine: consider the role of the artist maker and curator.
- 'Consider the idea that design has begun to take: 'The drift towards the adjective... restores the design concept to where it belongs – to the verb, to the action', design 'involves the body, three dimensionality, spatiality and materiality'.
- How far do you agree that commercial and industrial values should not be confused with the artistic and functional?
- Anton Alvarez's finished product bears traces of production process. Explore the notion of concreteness and production as a means of anti- alienation.

History

Curriculum content:

Design; inventions; machines.

Richard Wentworth: Foreword *Anton Alvarez Thread Wrapping Machine* stated:

'The antler as man's first digging tool, the industrializing of textiles which bankrolled the railways and the Cold War accelerating the invention of GPS.'

Suggest activity ideas:

- Create a timeline of inventions. Consider what might have happened if one of the inventions in time hadn't been invented.
- Predict inventions for a future society; all inventions must be made from natural materials.

KS2

Discussion Points:

- Consider whether inventions made life easier or harder.
- How to make a moving toy.
- How to invent something to solve a problem.
- How have inventions made life easier or harder?

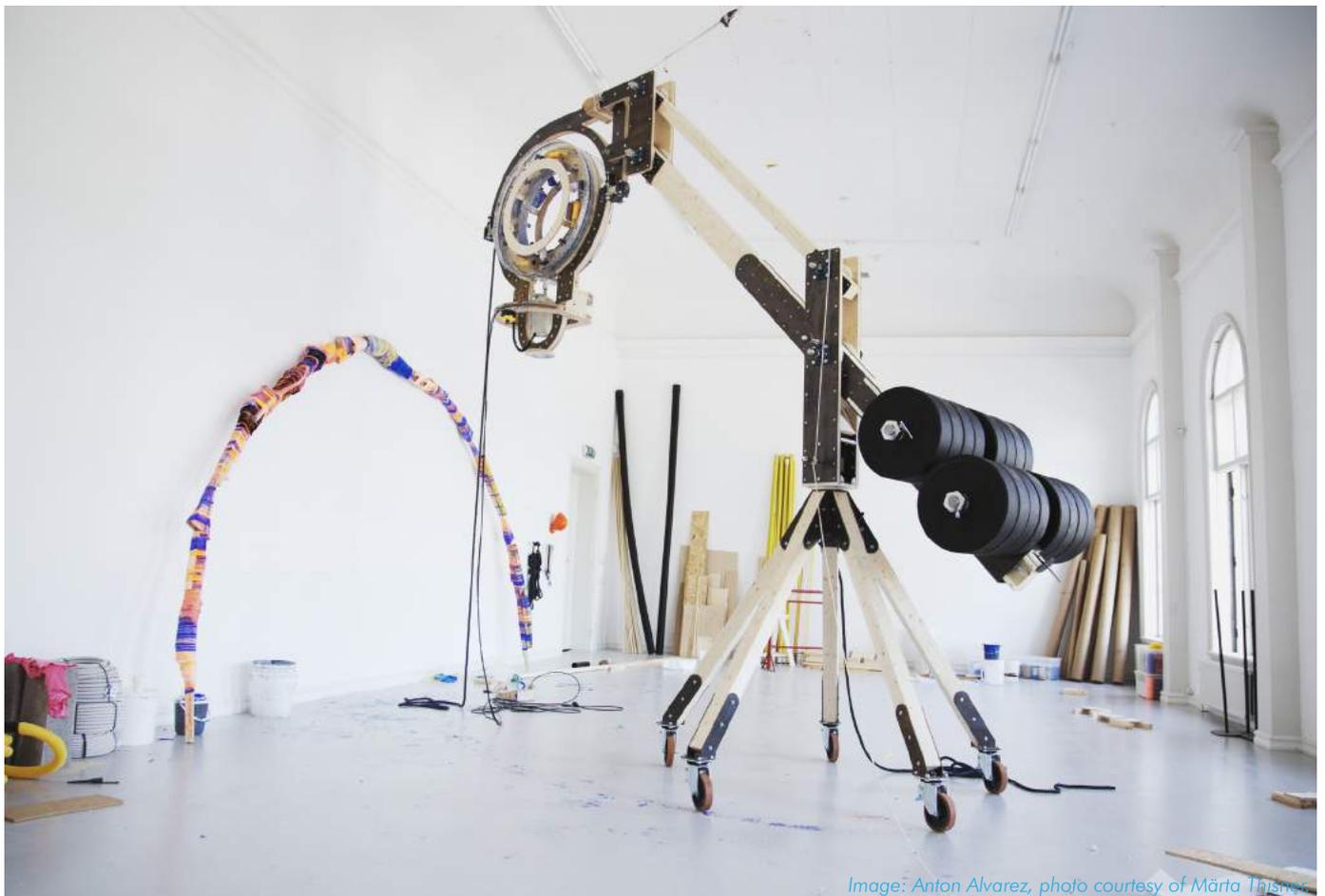


Image: Anton Alvarez, photo courtesy of Märta Thörnström

Further information

NCCD supports a range of national initiatives to offer more opportunities for children and young people to experience the richness of the arts and culture.

Arts Award

Bronze: NCCD gives young people the opportunity to take part in an arts activity they enjoy, by going to an arts event, researching their arts inspiration and sharing their skills with others.

Silver: Unit 1: arts practice and Unit 2: arts leadership. NCCD provides the perfect environment for achieving the Silver Arts Award challenge through reviewing arts events, researching artists and arts organisations, and in discussion with the team at NCCD, delivering an arts leadership project with other people.

Gold: opportunities at NCCD can help to develop young people's creativity, communication, planning, teamwork and leadership skills.



Artsmark

We are committed to supporting primary and secondary schools, further education colleges and youth justice settings to achieve Artsmark status.



Cultural Enrichment Passports suggested activity: ALL KS

- Briefly describe the exhibition and the venue in which you saw it.
- Reflect on your favourite pieces in the exhibition, how the works were arranged or the impact of the exhibition on you.
- Working with a practitioner: details of practitioner; nature of your work with the practitioner; which aspects of this work would you like to develop further?
- Exhibiting a piece of work: details of your work; where was it exhibited? How did those who saw your piece react to it and what have you learned from their reactions?
- Research an art form: what did you choose to research? why did you choose this art form? what did you discover that interested you?



Images by Aníbal Álvarez.

Appendix

Critical Works:

- International Workingmen's Association 1868; Record of Speech by Karl Marx
On the Consequences of using Machinery under Capitalism. Source: MECW Volume 21, p. 382; First published in: *The Bee-Hive*, August 1, 1868.
- Issues in *Contemporary design practice: Barbara Brondi and Marco Rainò* © Tullio Deorsola
Brondi and Rainò encourage local students to value substance over style—an approach the organisers believe vital to the future of design practice. An *IN Residence* workshop—featured Anton Alvarez.

Further Reading:

- Anton Alvarez: *The Thread Wrapping Machine*, 23.10.10-14.09.14 pub: Arvinus + Orfeus
- *Thread Wrapping by Anton Alvarez: Intergalactic Craftsman and his Futuristic Spinning Machine*, January 07, 2015. Text by Carmel McNamara.

Web sources:

- <http://www.antonalvarez.com/>
- <http://www.frameweb.com/news/thread-wrapping-by-anton-alvarez>
- http://www.libbysellers.com/usr/documents/press/download_url/382/icon_antonalvarez_october-2014.pdf:
Editor Christopher Turner writes of Anton Alvarez's extremes of scale, *Icon* October 2014.