



WOMEN CLIMBERS AND THEIR CLOTHING

1850-1920: A DESIGN-INFORMED PERSPECTIVE



Exploring how the clothing of 19th and early 20th-century women climbers may have been specifically designed to facilitate freedom of movement.

Type of output:
Artefact

by
Fiona Kitchman

Front cover image:

First New Year Meet,
Crianlarich, 1908/09.

L-R: Lucy Smith, Kitty Stuart,
Ruth Raeburn, Jane Inglis Clark,
M. Eckhardt, I. McBride,
Pauline Ranken.

*Photo credit: Courtesy of Ladies
Scottish Climbing Club Archives.*

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**Northumbria
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SUMMARY

This practice-based research project investigates how the clothing of 19th and early 20th-century women climbers was designed, cut and constructed, using the inherent properties of the textiles, to facilitate freedom of movement.

Since 1808, there have been many first ascents of mountains by women. Research to date on this subject has been grounded in a feminist perspective, related to historic societal norms and largely based on literary sources. Examples include Roche (2016), Brown (2002) and Stockham (2012). There has been little investigation of what design-informed analysis might reveal about garment functionality.

This research takes a tripartite approach, drawing on Kitchman's own industrial experience as a designer of outdoor performance clothing:



Right: Lucy Smith with Pauline Ranken
on Salisbury Crags, Edinburgh, 1908

*Photo credit: Harold Raeburn. Courtesy of the
Ladies Scottish Climbing Club.*

Firstly, this research documents women's own accounts of how their clothing impacted on their participation in outdoor activities.

Secondly, using close visual analysis of historical clothing artefacts, it investigates how their design, construction and textiles could help overcome barriers to free movement. Object-based research and a series of qualitative engagements were conducted with curators and archivists in the Discovery Museum, Newcastle; the National Museum of Scotland; and The Alpine Club, London.

Thirdly, through an empirical design process, this research synthesises the insights gained from historical analysis to inform contemporary pattern-cutting practice. This is of significance as industry seeks to find more sustainable alternatives to petroleum-based textiles. As a culmination of this practice-based research, a women's jacket for mountaineering was re-imagined and constructed.

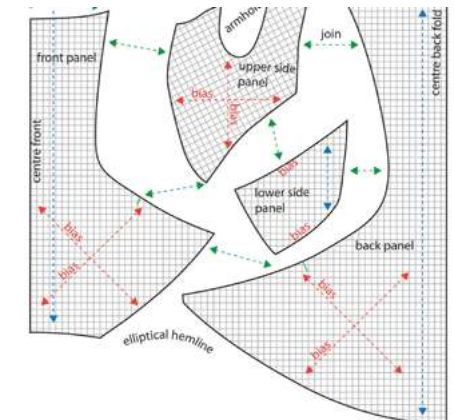
The resulting artefact was exhibited in "[Re-Fashion](#)", Discovery Museum (TWAM), 2016 and the School of Design, Northumbria University, 2018. A paper documenting the process, along with ongoing archival research, was presented at the [Futurescan](#) Conference at Bolton University January 2019.

“A ladies dress is inconvenient for mountaineering, even under the most careful management, and therefore, every device which may render it less so should be adopted.”

Mrs Henry Warwick Cole, A Lady's Tour Round Monte Rosa

Right: W. Bocher Munich Catalogue 1912, Courtesy Alpine Club Archives (Cole, 1859)

Below: Walking Suit, 1908
Photo credit: Discovery Museum)



Far right: Main body pattern pieces

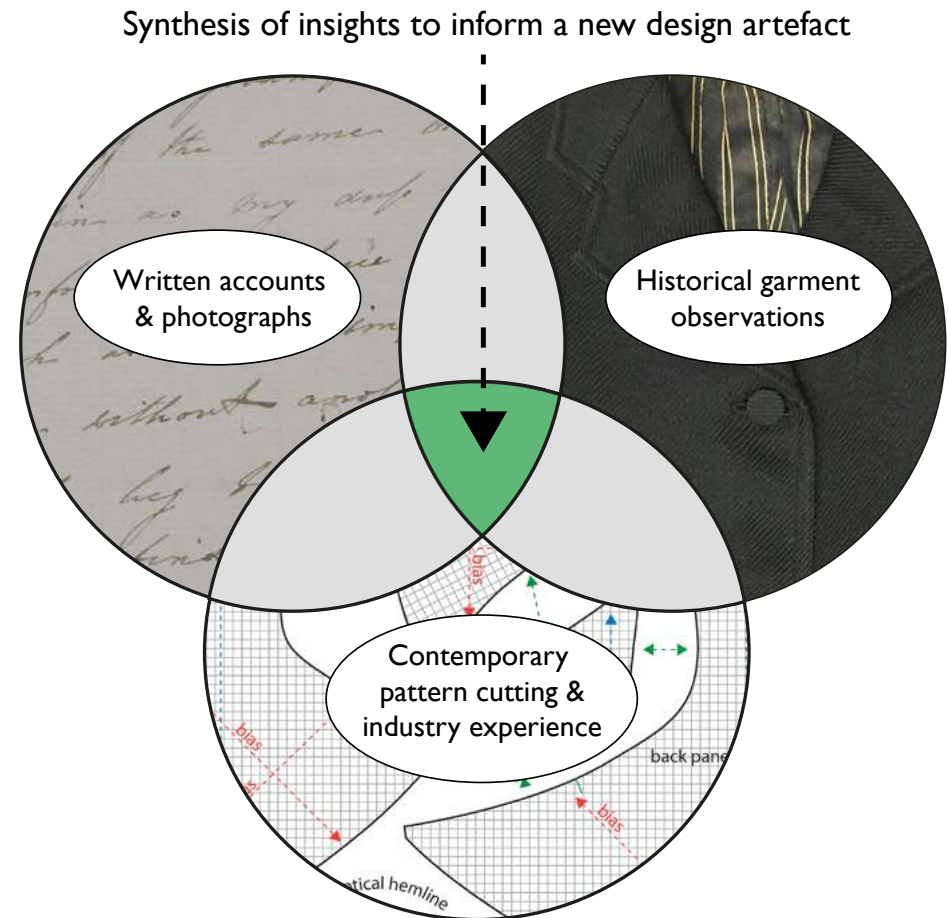
RESEARCH CHALLENGE

To review relevant literature and photographic evidence, including unpublished first-hand accounts, written by women who were involved in outdoor activities during the 19th and early 20th centuries. Particular emphasis is given to the consideration of functionality in garment design and choice of textiles.

To create an evidence base, from a fashion history perspective, of how the cut, cloth, construction and layering of surviving artefacts may have impacted on the performance of women taking part in outdoor activities.

To synthesise new knowledge gained from the above, with Kitchman's own commercial experience as a designer of outdoor performance clothing, to explore empirically how garments could be re-imagined to enable women climbers to move freely, without restrictions.

The aim of this design-informed project is to deliver qualitative transferable research insights to inform contemporary pattern cutting practice.



CONTEXT

This research contributes to a maturing discourse in the history of garment design. Although much has been written on the feats of male climbers and their equipment, there are relatively few accounts of women's achievements. For example, Lucy Walker (1836-1917) made the first female ascent of the Matterhorn in 1871 but the Alpine Club's journal made no mention of it (Roche 2016). The clothing that women climbers chose to wear has been granted only passing reference (Main and Richardson 1890; Raeburn 1920; d'Angeville 1992; Strasdin 2004).

Research focus to date has mainly drawn on literary discourses (women's history, feminist literature sources and gender studies) rather than from a design or fashion perspective (Colley 2010; Stockham 2012; Roche 2013, 2016). There has been little investigation to date of what historical clothing artefacts can reveal regarding the freedom, or lack of it, experienced by women in the 19th and early 20th centuries.

The presented research contributes new insights about the consideration of functionality in garment design as it relates to societal norms of the period. It also has relevance to contemporary industrial practice. As [outdoor industries](#) increase their use of [renewable](#), natural materials, a new approach to pattern cutting may offer a sustainable alternative to synthetic stretch fabrics.

This work is of relevance to archivists, curators, dress historians and practising outdoor clothing designers. Direct stakeholders in the research include The Ladies Scottish Climbing Club, Discovery Museum Archive (TWAM), National Museum of Scotland and The Alpine Club Library.

Right: Pauline Ranken, Anne Ranken
& Joan Smith descending the Clach
Leathad, Meall a' Bhuiridh,
Black Mount, 1909.

*Photo credit: Courtesy of Ladies Scottish
Climbing Club Archives.*



METHODS AND PROCESSES

1. In their own words

A review of primary literature was undertaken to evaluate the extent to which women considered the impact of their clothing on their climbing or other outdoor activities. These documentary sources show that women were keenly aware of the importance of factors such as weight, warmth and water repellency. Women's own accounts also demonstrate an interest in the cut of garments to enable unrestricted movement of the arms.

For example, Lady Louisa Erskine's letter to her dressmaker evidences that women were actively involved in ensuring that their garments were fit for purpose (in her case archery).


Mrs Henry Warwick Cole, who travelled and climbed in the Alps in the 1850s, recommended alpaca because it is lightweight, soft and durable. It is warmer than sheep's wool having a hollow core which means it has higher warmth to weight ratio like the modern synthetic fleeces developed by Polartec.

“A jacket should be of strong, thick, closely woven material, and one which sheds water readily.”

Ruth Raeburn, *Mountaineering Art*, 1920



from.
a kind of short Pelipe for
an Archery dress. I have
never been able to find any
suitable I do mean in
shootery.
Please answer this letter
immediately
I remain Madam
Your Obedient Servant
Louis Erskine



“I will not have it made unless you can alter the sleeves so as to give me more facility in raising the arm, perhaps too it had better be rather lower as that might give more room.”

Above:
Letter to her dressmaker, Lady Louisa
Erskine, Adlington Hall, 1830-40.
Photo credit: National Museum of Scotland

“The costume, as I wore it from the Grands Mulets onwards, weighed fourteen full pounds.”

Henriette d'Angeville, My Ascent of Mont Blanc, 1838



Left: Henriette d'Angeville,
vestint més de 6 quilograms de roba
Photo credit: Wikimedia Commons

In her account of the ascent of Mount Blanc, Henriette d'Angeville provides a comprehensive list of her attire;

*“My clothing consisted of:
Combinations of English flannel, to be worn next to the skin
A man's shirt, to be worn on top A foulard cravat
Two pairs of silk stockings Two pairs of very thick woollen stockings
Two pairs of nailed boots, waterproof and of different sizes
A pair of trousers, cut full, corded at the top, with gaiters at the bottom to tuck into the boots. The trousers were made of Scottish wool plaid with a warm, soft, fleece lining.
A blouson of the same material and lining, cut full, with tucks front and back to protect the chest and back with six layers of wool.
A leather belt, arranged to sit rather low on the waist
One pair of knitted gloves with a fur lining One pair of gloves with the fur outside, large enough to fit over the others, with deep fur cuffs to keep the air out
A boa
A close bonnet of the same material as the blouse, lined as well, trimmed with black fur, and with a green veil attached to the brim
A large straw hat from Chamonix, with a green lining and four strings to hold it firmly in place A black velvet mask
A long stick with a ferrule
A plaid A pelisse, fur lined throughout, for the night and the coldest part or the day.”*

- d'Angeville, 1992

Right: L-R:
 Outfit for Winter Climbing in Scotland
 for members of the Ladies Scottish
 Climbing Club
 (Stevens, 2008)

Gustav Steidel winter sport catalogue
 c1912

Burberrys brochure c1912
 Photo credit: Courtesy of the Alpine
 Club Library

OUTFIT FOR WINTER CLIMBING IN SCOTLAND
 ADVISED BY THE LADIES SCOTTISH CLIMBING CLUB - OCT 1908

CLOTHES

- *STRONG BOOTS WITH LOW HEELS AND MOUNTAIN NAILS.
- *THICK STOCKINGS.
- PUTTEES OR GAITERS, TO KEEP OUT SNOW.
- TWEED KNICKERS.
- *SHORT SKIRT.
- *WOOLLEN UNDERWEAR.
- *WOOLLEN BLOUSE.
- SLOUCH FELT HAT. 2/6 AT JENNER'S, PRINCES STREET
- *WOOLLEN CAP (OR SHETLAND HELMET) 1/6 AT JAEGER'S.
- WOOLLEN GLOVES WITH FINGERS.
- *SNOW GLOVES-THIS PATTERN  AT JAEGER'S.
- SHETLAND JERSEY
- *JACKET, GOLF JERSEY OR SWEATER
- SHETLAND MUFFLER
- WATERPROOF CAPE OR A "WETTERMANTEL"

<p>IMPLEMENTS</p> <ul style="list-style-type: none"> *ICE AXE AND SLING FOR AXE *ROPE *COMPASS *MAPS 	<p>ACCESSORIES</p> <ul style="list-style-type: none"> *RUCKSACK LANTERN AND CANDLES SPIRIT FLASK POCKET KNIFE MATCHES AND STRING
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THOSE MARKED WITH A "STAR" ARE ABSOLUTELY ESSENTIAL

spezial-Sp
Gustav Steidel * Berlin
 Filialen unterhalte ich nicht.
 bei der Gründung (1853) an derselben Stelle. Telegr.-Adresse: G
Fernspr.: Amt Ze

Damen



**Damen-Ulster
„Gerda.“**
 Aus weichen, dicken Stoffen.
Für den Wintersport
 besonders empfehlenswert.
 Der Mantel ist zweireihig,
 kann am Halse offen und ganz
 geschlossen getragen werden und
 ist hinten weit gearbeitet.
 Der Mantel kostet aus:
 Weiss. Flauchstoff M. 40,—
 Kamelhaar-
 Flauchstoff 60,—
 Lederfarbigem
 Flauchstoff 65,—
 Bunt gemustert.
 Flauchstoff 75,—

**Wetterfeste
Loden-Damen-Beinkleider**
für den Wintersport.

	Mittelweite Form mit Kniemanschetten. Gebirgsloden M. 11,— Steyr. Damen-Loden . . . 14,— Bayr. Herren-Loden . . . 19,50 Steyr. Loden Extra . . . 24,— Homespun 24,— Marineblau Cheviot . . . 9,—
--	--

**Neuheit!
Damen-Knie-Breeches**
It. Abbildung.

	Steyr. Damen-Loden p. Beinkleid M. 10,50 Rippen-Cord, dauerhaft und winddicht . . p. Beinkleid M. 19,50 Leder-Imitation, winddicht, sehr haltbar. Farben: mode, grünlich und marineblau p. Beinkleid M. 13,50
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**MOUNTAINEERING
AND WINTER SPORTS**

BURBERRYS

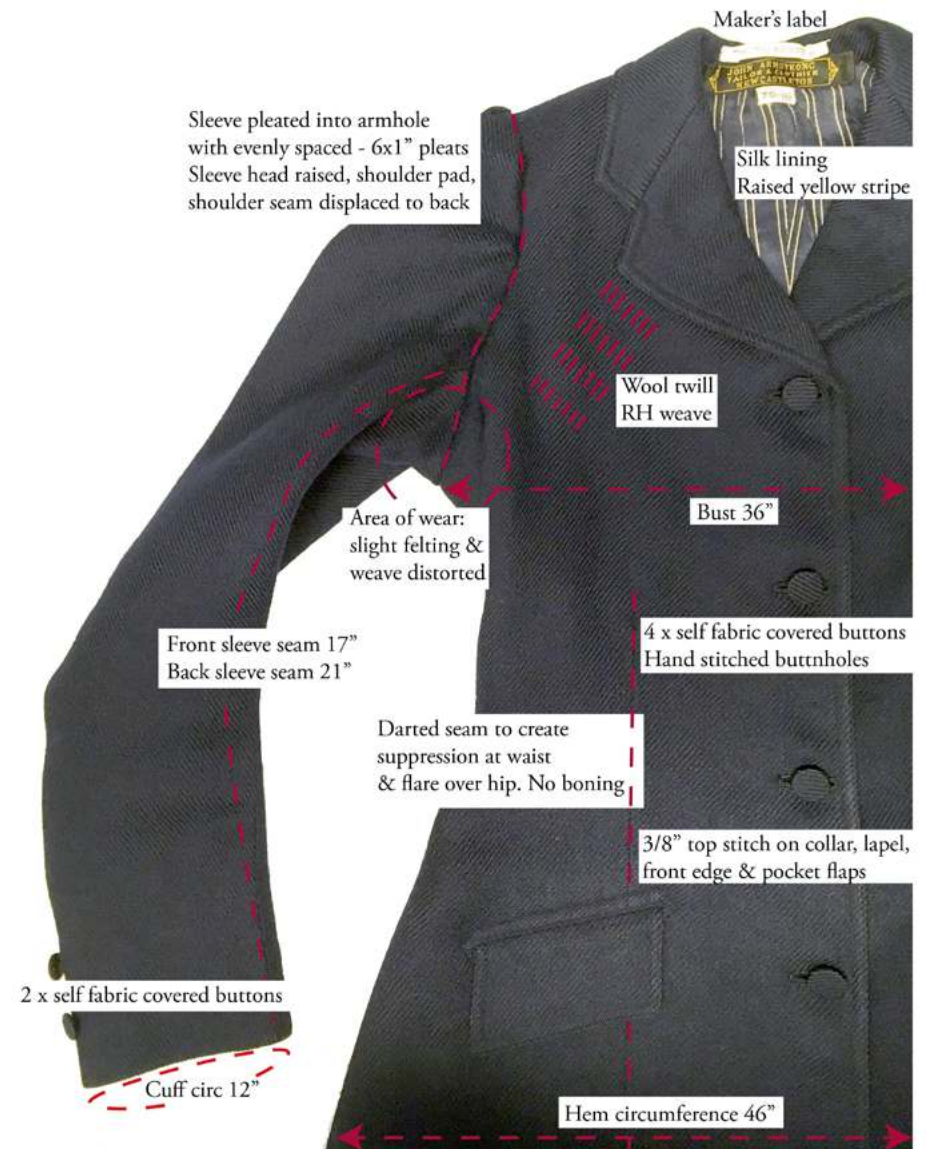
30 to 33, HAYMARKET, LONDON
 10, BOULEVARD MALESHERBES, PARIS

2. Historical artefact-based research

Everyday clothing of this period was not valued enough to be collected so little exists in the archives (Strasdin, 2004). However, some women's tailored suits, which evolved from riding habits to fit emerging leisure pursuits, have survived.

Several walking suits and riding habits held in different archives were identified as being relevant to the research. These artefacts were analysed to discover whether they were cut and constructed using methods that would have allowed less restricted movement when worn. For example, seams and construction lines were marked out to determine the warp and weft of the cloth to ascertain if the panels were cut taking advantage of the bias grain.

Observations were recorded using the method shown by Mida and Kim (2015) based on the methodologies of David Jules Prown (1982) and key practitioners such as Lou Taylor (2002). In addition, conversations were conducted with curators and archivists to uncover narratives around their design, making, wear and tear or personal adaptations.



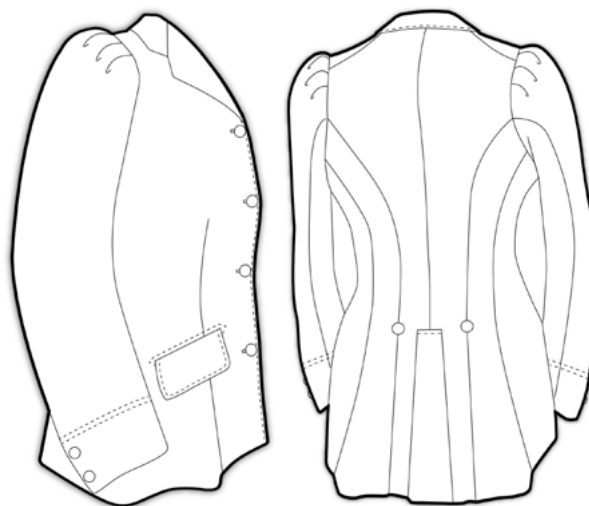
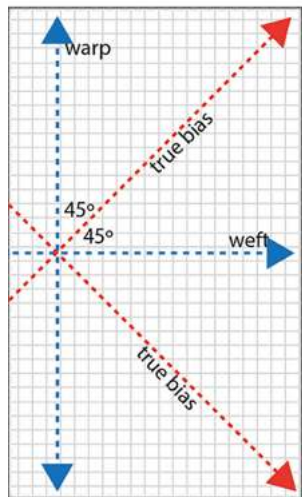


*Edwardian Walking Suit,
c.1908, Discovery Museum*

This tailored jacket, typical of the masculine styles of the period, is cut with underarm panels on the sleeve and side panels on the body and has good articulation making it practical for active use. The sleeve has a curved, ergonomic shape that allows the fabric to stretch over the elbow utilising the bias grain of the cloth.

The twill weave woollen cloth drapes well and has natural stretch properties, particularly on the bias.

The jacket has no restrictive side seams, so the length from hem to under arm would move more easily with the wearer. Interpretative visual analysis suggests that this was the intention of the tailor.



3. Practice-based research

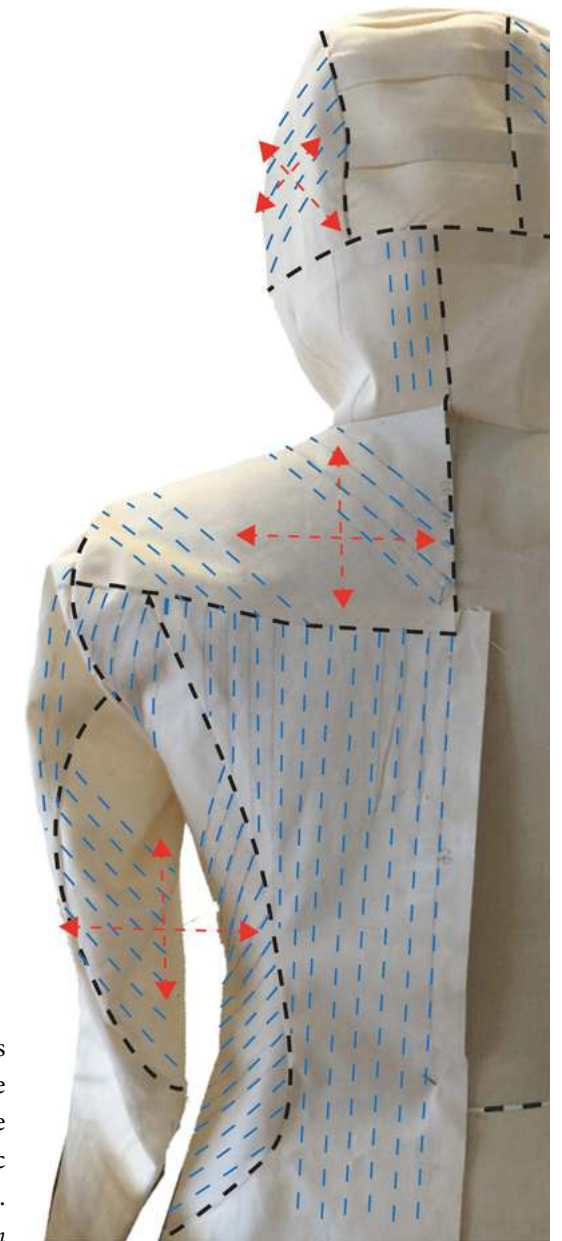
Could period garment construction be re-imagined and combined with contemporary methods to enable a female mountaineer to move freely and climb without restriction?

Toile development and pattern cutting geometry are key to this inquiry.

Understanding how a mountaineer moves, with particular consideration to arm lift and rotation of head and body, informs which areas of the garment need to work with the body.

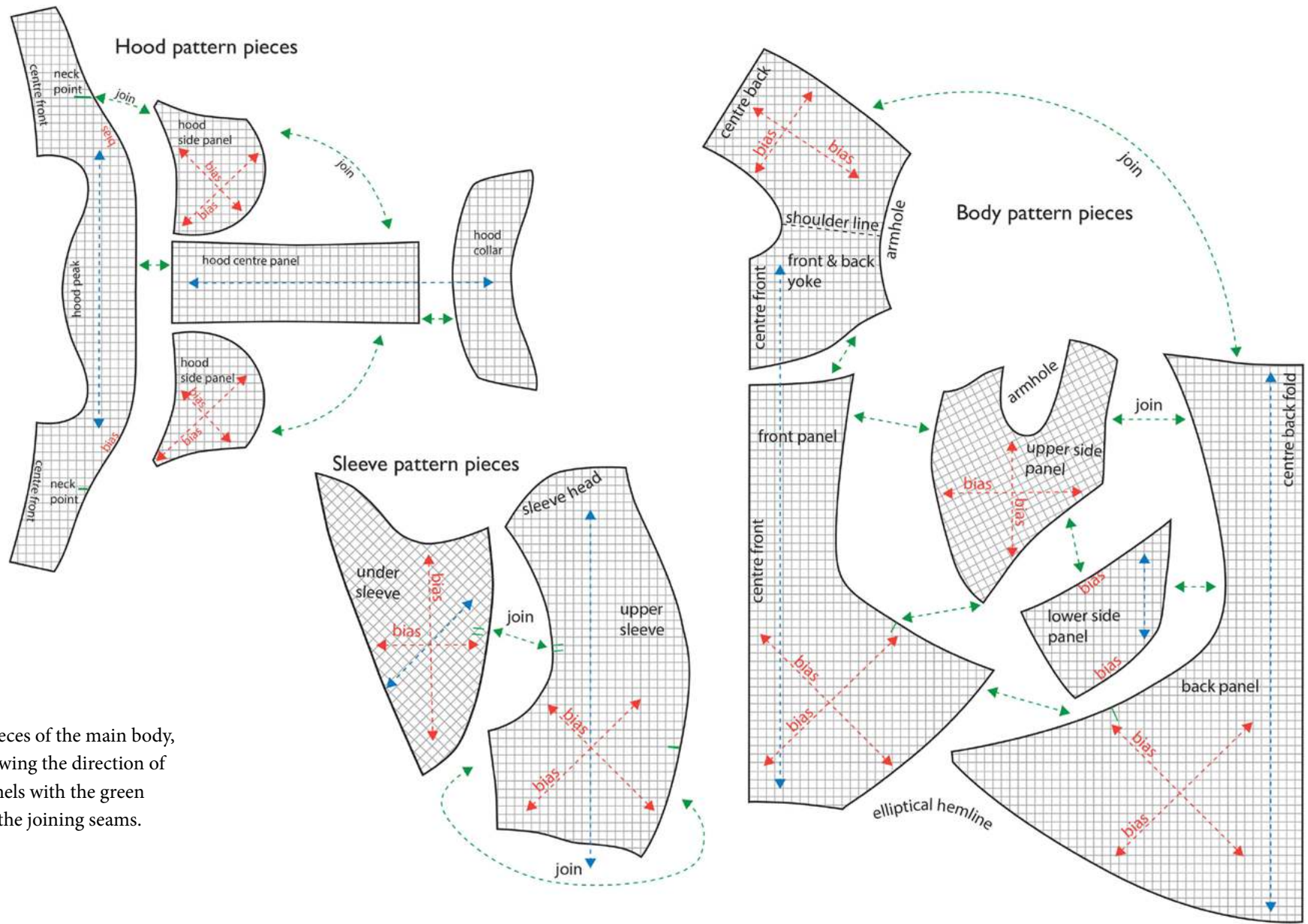
This, in turn, informs the placement of construction seams and panels, designed to flow round the body, serving a practical purpose as well as being aesthetically pleasing.

Joining ergonomically placed seams with bias cut panels allows the traditional woven wool fabric to stretch and move with the body and facilitate movement in active use.



Right: The second toile is constructed to ensure that the ergonomically placed seams join the bias-cut panels, allowing the fabric to move with the body in active use.

Photo credit: Fiona Kitchman



The key pattern pieces of the main body, sleeve & hood showing the direction of the bias on the panels with the green arrows indicating the joining seams.

Re-imagined women's jacket for mountaineering

- 100% merino wool, washed to felt slightly to raise surface increasing wind resistance and natural water repellency;
- The subtle stripe shows the direction and purpose of the grain on each panel;
- The seams are positioned so the movements of the body are not restricted;
- The sleeve and armhole are cut to enable a wide range of arm movements when climbing;
- The hood is designed to rotate with the head and not impede vision to the front or sides.

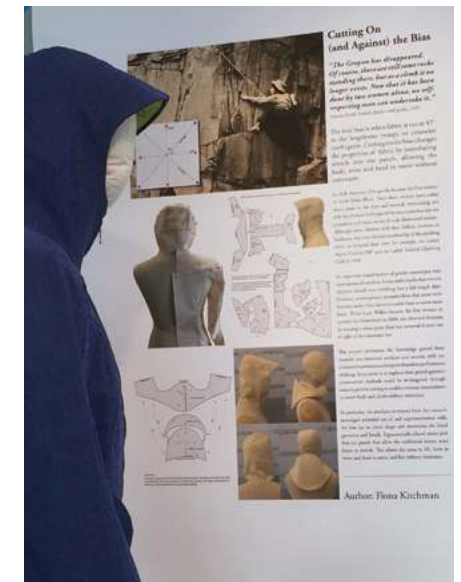




DISSEMINATION

The resulting artefact was exhibited in the “[Re-Fashion](#)”, Discovery Museum (TWAM), 2016 and Call for Makers, School of Design, Northumbria University, 2018.

A paper documenting the process, along with ongoing archival research, was presented at the [Futurescan](#) Conference at Bolton University January 2019.



Right:
“Re-Fashion”, Discovery Museum,
Newcastle upon Tyne

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Author's own photographs unless otherwise stated.

Right: First New Year Meet, Crianlarich,
1908/09. Courtesy of Ladies Scottish
Climbing Club Archives.

L-R: Lucy Smith, Kitty Stuart,
Ruth Raeburn, Jane Inglis Clark,
M. Eckhardt, I. McBride,
Pauline Ranken.



Back cover image: Lucy Smith with
Pauline Ranken on Salisbury Crags,
Edinburgh, 1908

*Photo credit: Harold Raeburn. Courtesy of
the Ladies Scottish Climbing Club.*

Northumbria University, Newcastle.
Art and Design: History, Practice and Theory.

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