Missed Fit

by

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A thesis exhibition presented to OCAD University

In partial fulfillment of the requirements

for a degree of

Master of Design

in

Interdisciplinary Master's in Art, Media and Design

2104 Dundas Street West, January 18 to 24, 2019

Toronto, Ontario, Canada, April, 2019

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2019

Abstract

This thesis examines how the technical fit of a garment can affect an individual's ability to fit in. It challenges the tool box used by practitioners working with anthropometric data (the surface measurements of the human body) and has produced new methods that are less reliant on published averages. Some of the thesis questions are: how does anthropometric data and the study of human anatomy influence notions of an ideal body? In what ways do anthropometric data and patternmaking principles include or exclude diverse body types? What tools can be developed to assist designing for diverse bodies? It takes a multi-method and multi-theory approach to the research and investigates concepts of fit through phenomenology, semiotics and anatomy. By exploring experimental methods in cut, it challenges the meaning of a key example of conservatism and uniformity in tailoring, the grey flannel suit.

Acknowledgements

Thank you to my principal advisor, Dorie Millerson, for all the knowledge, advice and guidance along the way. Thank you to my secondary advisor, Dr. Stephen Tulk, for all of the discussions making observations and connections between the human body and the challenges I face as a tailor. I truly have a much clearer understanding of how to work with the human body. Thank you to my committee members, Angelika Seeschaaf-Veres and Dr. Ben Barry. Thank you to my graduate program director, Dr. Martha Ladly, whose insight, recommendations and last minute letters of reference – written in Italian – proved invaluable to my research. Thank you to Dr. Katharina Giraldi-Haller for introducing me to works of art and architecture that influenced my research. Thank you to the generous financial support from OCAD U and the Natural Sciences and Engineering Research Council of Canada, which made more in-depth and international research possible and helped to facilitate my final exhibition.

Thank you to all of my professors at OCAD U: Dr. Kathy Kilo, Michelle Gay, Nichola Feldman-Kiss, Derrick Sullivan, Dr. Barbara Rauch, Dr. Lynne Milgram, Kathleen Morris, Jay Irizaw, Dr. Jessica Wyman, and to graduate program coordinator Julian Higuerey-Nunez.

Thank you to everyone who collaborated and volunteered during the exhibition preparations and installation. Kal Mansur, Carlyle Routh and Robert Weir, it was truly a pleasure to collaborate with you. Thank you Kristy Boyce for the beautiful images you photographed of the show. Thank you to Deborah Wang and the DesignTO festival for the platform that broadened the audience for my exhibition and your support in marketing the show. Thank you to the volunteers from the Seneca College School of Fashion who helped install, run and strike the exhibition, including Tia Mcquaid, Jordan Tabalbag, Victor Osahon Atekha, Sahra Warsame, Peng Qiang and Abigale Jiaye Han. Thank you also to Kayrn Ruiz of Lilliput Hats for contributing to *Photographs of a Suit Made Not to Fit*, Laura Simpson and Peroni for helping to facilitate the exhibition opening.

Thank you to Craig Renaud for helping to keep my commercial practice on track while I pursued this research. Thank you to Gitte Hansen and Seneca College for your letters of recommendation and support on my journey.

Thank you to my parents Norman and Louise Sparks, and to my family and friends for all the emotional support I needed.

Thank you mostly to my husband Andrew Sardone for packing my lunches, doing the laundry, grocery shopping, reading all of my papers, keeping me organized, pushing me to do better, standing beside me, and taking care of me through all of it. I could not have done it without you.

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Introduction

Missed-Fit has been a journey, one with many tangents and false starts. I started my research with one question: has the human form in Western civilizations changed physically over the last 200 years? Certainly, lifestyles and occupations have changed. In Western culture, there has been a trend to a more sedentary workplace and home life, but has that affected the shape and proportions of the human form and how Western culture perceives the concept of fit? I thought that the issues I faced as a custom tailor in finding the resources I needed to fit individuals reflected a need to update quantitative data on the size of the human body. I found early in my research that it was my reliance on this quantitative data that caused the problem in the first place.

I looked to historical tailoring texts from Canada, the United Kingdom, Italy and France for insights into our past ideas on finding fit and, in them, I found historical records and theses on anthropometry, or the geometry of the human form. Anthropometry is defined in the Gage Canadian Dictionary (Avis 1983) as ”the branch of anthropology that deals with measurements of the human body” (48). Anthropometric data is often published for use in various design fields including tailoring, industrial design and architecture. This is a practice based and qualitative research project that challenges the use of quantitative data on the human body, as it is applied in fields where the human body is considered.

Exploring what is good fit is important to me. As a practicing tailor, people come to me every day because of the challenges they experience finding clothes that fit them – and how that limits how they fit in. The goal of this research is to expand the ways practitioners in fashion consider what is deemed to be good fit. What I have learned from my study of historical tailoring texts and through apprenticeship is that traditionally tailors define good fit as a garment that hangs in a balanced way off the shoulders and sits on the body without excessive folds or creases, while the wearer is in a comfortable standing position. As a researcher I learned that good fit is determined by the wearer and different for every individual.

The creative body of works I have produced reinforce my thesis that mechanical fit influences psychological fit, and that there are tools that can be developed to produce diverse approaches to fitting the body that don't rely exclusively on anthropometric data. Some other examples of this challenging of fit can be seen ongoing in works of Japanese fashion designer Rei Kawakubo for the brand Comme des Garçons (Bolton 2017), in the past works of Belgian designer Martin Margiela for his Paris based brand Maison Margiela (Samson 2018), and in the work of American fashion designer Thom Browne (described further in Chapter 2). In the exhibition I posed four questions to engage visitors, in questioning fit. How do you find fit (22)? How do you fit in (40)? How do you feel when

someone who doesn't fit in enters the room (45)? and How do you experience fit (49)?

Chapter 1

A Fit, Fit:

Literature review

> Every experience I have had of pleasure and excitement about a world opening up has begun with the ordinary feelings of discomfort; of not quite fitting in a chair, of becoming unseated, of being left holding onto the ground. So yes, if we start with the body that loses its chair, the world we describe will be quite different. (Ahmed 2006, 154)

Sara Ahmed's *Queer Phenomenology* (2006) gives me the perfect platform to queer our experiences of getting dressed, to quite literally bend the lines or seams in a garment. Through this paradigm, I explore how we experience dress, the differences in the experience for each individual, how we interpret dress and why a new approach to finding fit is important.

I have explored two concepts of fit in this research: mechanical fit, such as when two parts are required to fit together to drive a machine, and fitting in, or how we measure and compare ourselves against one another.

Mechanical fit inherently provides for the right amount of looseness, and the amount of ease required in the fit of garments is always up for debate. One individual with a jacket that cannot be buttoned closed may complain that it is too loose, and tell their tailor that it needs to be taken in. Another individual may complain that a very boxy jacket is too tight, and needs to be let out.

As a tailor and clothing designer for almost two decades, I have made the crafting of garments that fit perfectly my primary goal, studying anthropometric data in a desperate search for a good standard and working tirelessly to flawlessly clothe individual bodies. I've witnessed first-hand the positive effects this can have on a person. Through my craft, I have had the opportunity to help clients heal from the pain of a physical injury or health issue. I have aided individuals in coming to terms with a new body, and built new wardrobes so individuals can feel comfortable operating in environments with specific codes of dress.

In his book, *The Botany of Desire*, Michael Pollan (2002) likens the human species to apple trees using the term heterozygosity (10). He writes of the extreme genetic variability of apple trees. If you take the seeds from a single apple and plant them, the trees that grow from those seeds will not resemble the tree the seeds where taken from, nor will they resemble each other (10-11). Of course every tree grows a bit differently, but with apples each of the new trees allowed to grow will have different bark, different leaf shapes, different fruit of different colours, sizes and taste from the original, a much more extreme variability than is seen in other species (1-58). The human species is also heterozygosit. The tallest verified medically recorded man was 8-feet, 11.1-inches tall ("Tallest Man" 2019), the smallest adult man verified and recorded is 21.5-inches tall ("Shortest Man" 2019). How these two individuals experience fit is going to

be vastly different. Figure 1 depicts two individuals that highlight the different body shapes presented to a tailor.

Fig. 1. “Gentlemen Come in All Shapes,” n.d., Cartoon. In *The Art of the Tailor: With a Needle, a Thimble and 10,000 Stitches*. By Robert Doyle. Stratford, ON: Sartorial Press Publications, 2005. xvi.

Sara Ahmed (2006) describes the phenomenology of not fitting into a chair (154) and I relate this to how an individual experiences the fit of clothing. Ahmed writes of how we inhabit space and objects, that by repetitive inhabitation and use of a space by a particular group of people, it becomes a comfortable lived space (134). What do we usually describe as good fit? I think Ahmed would say, objects or spaces that extend our reach without thought, items and spaces that become normalized, or

made a part of our everyday lives. My experimenting with fit has taken me out of my normalized space, and I have done so to open myself up to new opportunities.

Jacques Derrida's (1982) *Différance* provides me with an action, a chance to challenge structuralism and binary oppositions. As Flavia Loscialpo (2011) outlines in her *Fashion and Philosophical Deconstruction: A Fashion In-Deconstruction,* Derrida's text highlights the idea that language is not a whole, that it has more than one interpretation, and often many conflicting interpretations (9). I apply this action of deconstruction to the signification of fashion and dress. *Différance* provides a theoretical framework that allows me to clearly highlight that the fit of a garment is a very personal phenomenon. It is experienced and perceived differently by everyone (Derrida 1982, 1-27). In my crossing of disciplines and in the reading of this thesis, you even find places where the same language needs to be re-defined depending on which discipline it is been applied to. Drafting a pattern in tailoring, for example, can be described as the process of finding a flat shape that can be used to create a three-dimensional piece of clothing. In weaving, drafting describes the planning of a weave structure, a binary code that when followed produces a woven pattern. You can see how language is easily misinterpreted and in need of definition. Dress, or the way one adorns oneself with clothing, complicates semiotics even further as it too crosses disciplines. Dress is

not without meaning, but defining that meaning proves challenging.

Roland Barthes' (2017) *The Language of Fashion* opens up a dialogue, questioning what an article of dress means. Barthes contemplates what the small details such as buttons mean independently versus in combination with other materials (27). Barthes concludes that it is not a single element that gives dress its meaning, but rather the culmination of details that add up to its meaning.

Elizabeth Wilson's (2003) theory in *Adorned in Dreams* takes Barthes theories further. Wilson describes that the wearer of clothing imparts the meaning on it. In Wilson's text, she explores the struggle of studying dress. Wilson identifies that dress challenges the boundaries of the self: do we end where our bodies end? Do tattoos and other permanent adornments to the body become part of the self and, if so, does this include temporary adornment such as clothing (2)?

The Suit, by Christopher Breward (2016) outlines histories of the suit, the methodology and meanings in its making, its past and current contexts. Throughout this text Breward traces the history of how this uniform has been used to spark political and social change and its value as a signifier and carrier of different messages, reinforcing my choice of the suit as a vehicle to explore identity.

These texts speak to the experience and the meaning of dress, or how we wear clothing. I'm using them to highlight the nuanced way dress

is interpreted by the wearer and by others observing that individual. An issue of mechanical fit in clothing can have an impact on the wearer's ability to feel at ease. I'm applying these theories to my practice-based research to explore new principles in fit.

Chapter 2

The Grey Flannel Suit:

Methodology

My approach examines the tool kit and experiments with the methodology of patternmaking in tailoring. Scissors are one of my tools and the pattern can also be referred to as the cut of a garment. The technical fit of a garment has mostly to do with what flat shape has been cut before it has been pieced together. This research looks to historical and contemporary methods of cutting, along with principles or adaptations for issues with fit. This research challenges, exaggerates and breaks the rules of garment cutting. This is done in search of new ways of cutting and understanding fit. Julian Roberts' (2008) work, *Subtraction Cutting* is a patternmaking text that explores experimental cutting for clothing. He describes an approach that relates to the method I have taken:

> Fabric is not like wood, concrete or cardboard, and designing in cloth requires a fluid way of thinking that isn't stiffened or restrained by inflexible rules and traditions. When you explore new techniques and methods of making, you deal with chance, luck and hope (15).

Roberts' writing and work focuses on the idea of designing patterns, rather than creating patterns for designs, a cause and effect way of working that leads to new designs that could not have been conceptualized the other way around. I have worked with this chance and

discovery, cause and effect as a form of Research Creation – or Research for Creation – to determine a study of the ways I produce garments. Research Creation is well described in Chapman and Sawchucks' (2012) article *Research-Creation: Intervention, Analysis and "Family Resemblances"*:

> Research-creation "theses" or projects typically integrate a creative process, experimental aesthetic component, or an artistic work as an integral part of the study. Topics are selected and investigated that could not be addressed without engaging in some form of creative practice, such as the production of a video, performance, film, sound work, blog or multimedia text. (6)

In my case I have used the cut, development and construction of a garment as a creative process to explore my questions around fit.

I have used Grounded Theory as illustrated by Melanie Birks and Jane Mills (2015) in *Grounded Theory: A Practical Guide* (4) as a loose way of organizing this research. I have immersed myself in methods and methodology and allowed the theory to emerge.

Auto-ethnography has allowed me to put theory to the test of practice as described by Brent Luvaas (2016) in his chapter *Urban Fieldnotes: An Auto-Ethnography of Street Style Blogging.* "…auto-ethnography is a powerful tool, grounding insights gleaned from elsewhere within the lived realities of everyday experience. It subjects theory to the test of practice" (98). This has allowed me to build on the theories outlined in my literature review and add a sensory experience and a perspective of

someone immersed in the practice of making fashion to the field of Fashion Studies.

The suit is my medium, but it is also part of my methodology. Appropriating the suit and taking it out of its usual context brings into question its usually held meanings. Jan Verwoert (2007) writes in his article, *Apropos Appropriation*, that appropriate appropriation is about "performing the unresolved," bringing into question the untold (6). He describes appropriation as a way of evoking ghosts (6). The suit as a symbol of uniformity and conservatism is a way of conforming to Western ideals, a way of fitting in. It is this meaning associated with a suit that I hope to appropriate and decontextualize and it is for this reason that I state I am appropriating the grey flannel suit.

Sloan Wilson's (1955) novel, *The Man in the Gray Flannel Suit*, explores the associations we have with this from of dress. The story follows an ex-military man, Tom Rath, trying to fit back into regular life in New York's upper working class. Tom is unable to shake his time spent in war, and cannot re-assimilate into his past life. The title of the book is a metaphor for his struggles to fit in.

American fashion designer Thom Browne's work makes a great case study with regard to how I have appropriated the grey flannel suit. Browne pushes the boundaries of this type of garment, almost exclusively, collection after collection, successfully evoking ghosts of tradition,

conservatism, uniformity, masculinity and an attempt at fitting in. Browne does this by presenting experimental and non-conformational pieces that still resemble a grey flannel suit (see fig. 2).

Fig. 2 "Thom Browne Look 30 Fall, Winter 2017." Digital image. Vogue. Accessed February 17, 2019. https://www.vogue.com/fashion-shows/fall-2017-menswear/thom-browne.
In look 30 of his Fall 2017 collection, Browne appropriates the grey flannel suit to evoke ghosts of tradition, conservatism, uniformity, masculinity and an attempt at fitting in.

Chapter 3

Issues with Mobility:

An Anatomical Study

Developing a scientific understanding of the human form and movement of the human body has played a key role in my research. This chapter is made up of observations I made during an independent study in anatomy with Dr. Stephen Tulk, an assistant professor at OCAD University who specializes in anatomy for artists and medical illustrators, and is my secondary advisor.

When I set out to make a suit to fit an individual, my ultimate goal is to have the garment lie flat and smooth across the body with no creasing, pulling or excessive folds while the wearer is in a comfortable standing position. Clarence Poulin (1952) writes in his text, *Tailoring Suits: The Professional Way* on *What is Good Tailoring*:

> A good coat has straight seams and straight collar edges all over. There are no crooks or puckers. The front edge is smooth, and not stretched at any point…The sleeves hang clean with no diagonal fluting. The collar sits close around the neck but is neither tight nor loose. (15-16)

I would like to note that finding this natural or comfortable standing position is difficult. Part of my job is to distract an individual I'm hoping to fit, move them away from the mirror, and trick them if you will. Any notes

taken on an individual's posture while they face themselves in the mirror will be incorrect. I myself am guilty of sucking in my belly and puffing out my chest when I face myself in the mirror. A suit made up with observations taken in this setting will inevitably come back to me for alterations.

The comfortable standing position described above is of course only one position where a garment must function. My professional experience with fitting garments for different activities looks at how the movement of the human body affects what is considered good fit.

It has helped me to start with a description of the frame of the human body using the correct anatomical terms from Elaine N. Marieb, Patricia Bradley Wilhelm and Jon Mallat's (2011) book *Human Anatomy.* The human skeleton is described, as having two functional regions. The axial skeleton (145-181) is the vertebral column (backbone) along with the skull and ribcage. In humans, the vertebral column has a gentle S-shape when standing upright, with curves in the neck and low back areas that are concave in an opposite way to the curves in the ribcage and sacral areas.

The other region is called the appendicular skeleton (182-205), consisting of the upper and lower extremities. The upper extremity includes the bones of the arm along with the scapula and clavicle, and the lower extremity includes the bones of the leg along with the pelvis.

Cultural evolution has led more and more of us to daily activities that may be considered the opposite of an activity (for example, a sedentary pose such as sitting at a desk at a computer like I am now). Sitting at a table or desk with hands on a keyboard is the cumulative movement of many joints that combine to produce a different shape or gesture of the body than what is seen in a comfortable standing position. When seated, I bend by axial skeleton (trunk) forward in an anterior direction called flexion (212-213) of the vertebral column. My appendicular skeleton also moves. In the lower extremities, I bend my hips and knees. This is called flexion of the hip (with a decreased angle between the pelvic bones and the femur), and flexion of the knee (with a decreased angle between the femur and tibia).

In the upper extremity, my arms move forward. At the sternoclavicular joint (between the collar bone and the breast bone), there is elevation of the arm and protraction (214-215) or gliding forward of the scapula. This brings the pectoral girdle (clavicles and scapulae) into an anterior and superior position as I shrug my shoulders and hunch my back. Flexion at the shoulder joint moves the arm upward as I reach forward. At the elbow, there is another flexion movement, with a decreased angle between the ulna and humerus as the elbow bends (see fig. 3).

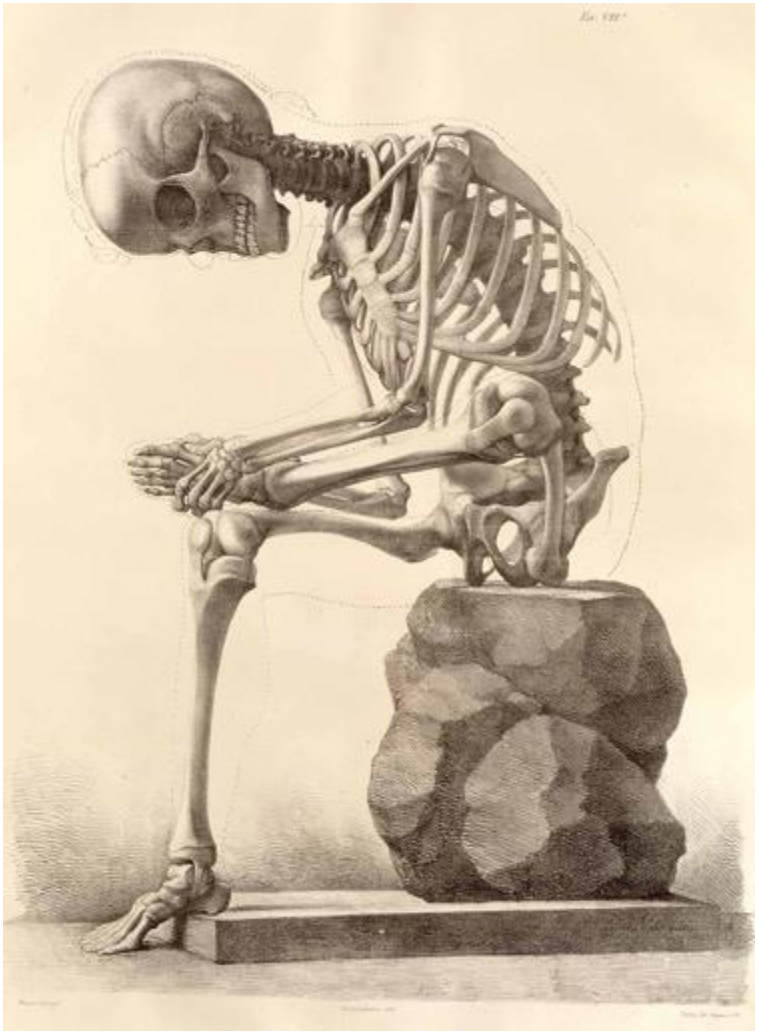


Fig. 3 Francesco Bertinatti. *Skeleton*. 1837-39. National Library of Medicine, Bethesda, Maryland. In *Human Anatomy: Depicting the Body from the Renaissance to Today*. Thames & Hudson, 2011. Cover.
This illustration shows a human skeleton seated, highlighting a position that a tailor also must consider when fitting a suit on an individual in comfortable standing position. (Note that when seated at a desk at a computer an individual will also bend their neck backwards to view a screen)

Why does this change in posture or gesture matter to a tailor? I started with the ideal position of an individual for a fitting to highlight the extreme differences seen from that position to another. As noted, in an upright position, there is a soft “S” shape, but when seated at a desk with

hands on a keyboard, one's position is more of a "C" shape. This changes the balance, or distribution, of cloth over the body significantly.

When setting out to make a suit for an individual – keeping in mind I am usually fitting an individual while standing – I must also consider the occupation of the individual and the occasion during which the garment will be worn. A suit for a wedding should look best on an individual standing comfortably. This will be their position when exchanging vows in front of witnesses. I would fit a jacket for a news broadcaster regularly on camera in a seated position to fit better on the individual while seated in front of an audience, with extra cloth in the areas needed to accommodate this posture. When cutting trousers for an individual hoping to ride a bike to work, I am faced with the challenge of producing trousers that can accommodate the movement of the legs.

I would like to note that this issue of fit for cycling has already been solved. In the late 19th and early 20th centuries (see fig. 4), when cycling became a popular sport, horse riding clothing was adapted for cycling. Breaches, jodhpurs, and plus fours are all leg coverings with ample material around an individual's hip and knee joints, and a quick tapering in of the garment just below the knee to the ankle. This shape allows room for movement of the hip and knee and avoids bunching up of cloth and the possibility of catching excess cloth in the mechanics of the bicycle. Jackets for cycling where made with action pleats running vertically over

each scapulae or shoulder blade. This added extra cloth to the back of a jacket, allowing room for the scapulae to glide into a posterior and superior position, as well as the extra length required along the back of a sleeve for a flexed elbow.

Fig 4. Egerton Burnett, Ltd. "Ladies' and Gentlemen's Cycling Materials." Advertisement. *The C.T.Z Gazette*, April 1900, xxi. Online Bicycle Museum. Accessed March 15, 2019. http://www.oldbike.eu/museum/1900s/fashion-costumes/mens-cycling-costume/.

The unfortunate reality is that breaches, jodhpurs, plus fours, and action pleats don't fit in to today's office culture. These items, considered costume-like, leave me still trying to make an otherwise slim suit with room for an activity for which it was not designed. Instead, perhaps, I should aim to adapt office culture to accept a garment better suited to the activities of

an office worker: sitting and riding a bike to work. Or I could suggest that office workers walk to work and stand for most of the day. It would do more than make a suit look better.

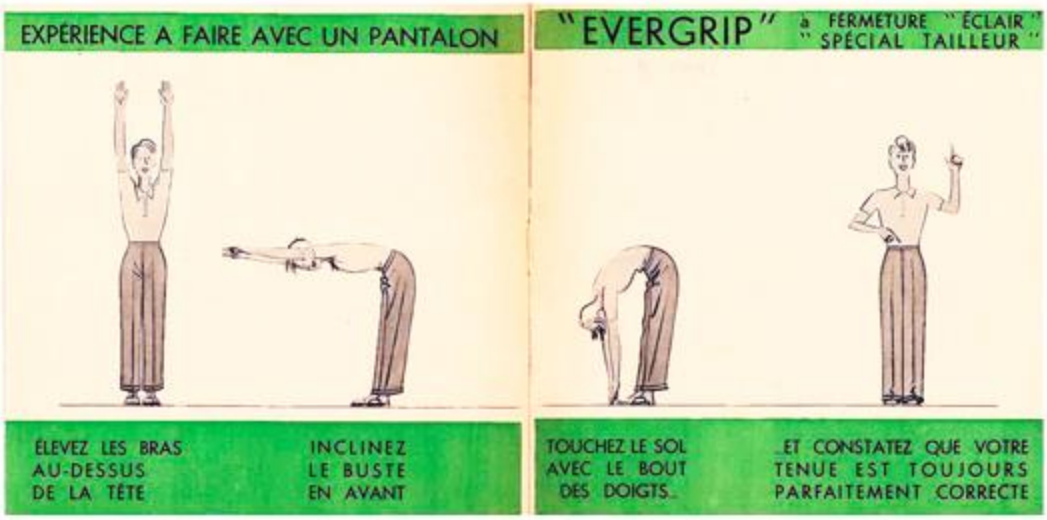


Fig. 5 Evergrip. "Evergrip: Le Pantalon Qui Tient Tout Seul!" Pamphlet. n.d.
This advertisement comically illustrates the issues with mobility that a tailor is challenged with when fitting trousers.

While I hope it is clear that it is not practical to change one's clothing for sitting versus standing, it is not always a given that a perfect fit for one position will result in a poor fit for another. It can be a challenge as a tailor to explain the need for some surplus cloth, especially to a client that wants a tight fitting coat. Requesting that a client sit, reach forward and move as they would highlights the reason for these allowances.

These issues with mobility reinforce my thesis that while anthropometry is published as static data, the human body is not static. Its measurements change with the movement of the body.

Chapter 4

Missed Fit:

Research Creation

In my exhibition, *Missed Fit*, I aimed to distort the experience of getting dressed by exploring exaggerated principles of fit in garments. The results, expressed through elements that investigated the process of designing clothing, how garments are made and the feeling of wearing them, questioned our sense of fitting in. The goal was to expand the ways practitioners consider what is deemed to be good fit. In the end the show reinforced my thesis that mechanical fit influences psychological fit, and that there are tools that can be developed to produce diverse approaches to fitting garments that don't rely exclusively on anthropometric data.

I work as a bespoke tailor and professor, teaching patternmaking and tailoring. I spend most of my time obsessing over the minute details that define the perfect fit. I start most of my work in a flat form, drafting from a mathematical formula to produce the two-dimensional geometric shapes that are assembled to produce a three-dimensional piece that envelops the body. I traditionally start my making processes with a clear idea of the end results.

My thesis work, however, explores the making process, experimenting with and challenging my tool kit. It is an opportunity to

test new approaches not usually afforded to me in my regular practice. This body of research is focused on the way that a garment is cut rather than how it is put together. It is an opportunity to explore ideas without the barriers usually applied to design products such as end use, target market and price point.

Part 1

How do you find fit?

Fig. 6 Giovanni Battista Moroni. *The Tailor (Il Tagliapanni)*. Painting. 1565-1570. The National Gallery, London.
"Il Tagliapanni" is more properly translated from Italian to English as "the cutter" In tailoring, the role of the cutter is to interpret the pattern and cut the cloth for an individual. A tailor assembles the cut pieces. The work in *Missed Fit* started with an exploration in cutting.

The exhibition was divided into four sections, each introduced by a question. The first element, How do you find fit?, is a collection of research materials, process work and tailored garments made purposely not to fit that question the idea of fitting in through fashion. I started my research looking for a system of drafting that might accommodate all body types,

going back to some of the earliest known texts on tailoring, and found only instruction on how to make the most economical use in the layout of a pattern on fabric and some basic instructions on types of stitches that are used to assemble a piece.

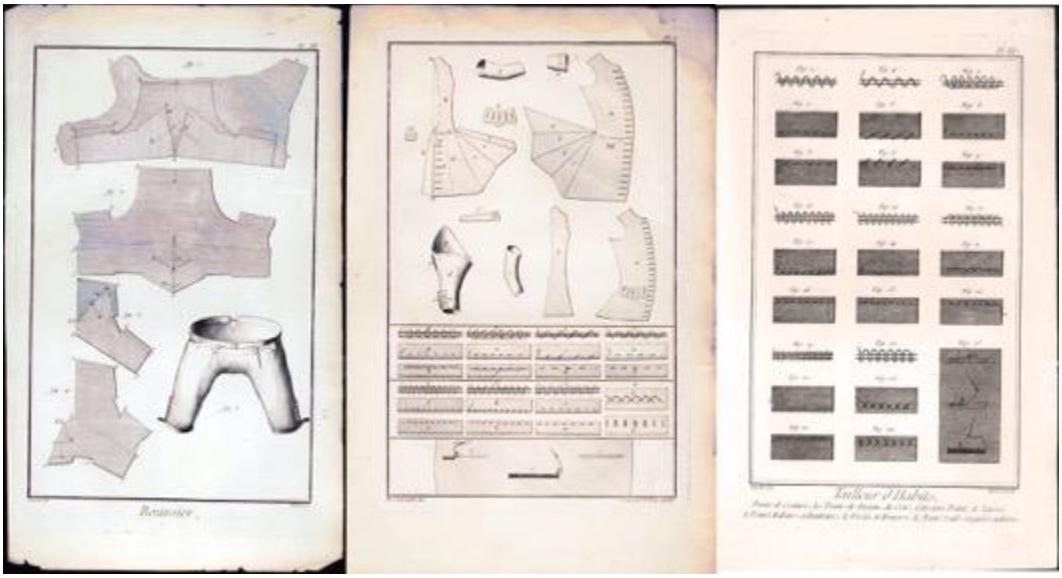


Fig. 7-9*, Plate III, Plate 5, Plate IX*. 1751-1772. In *Encyclopédie, Ou Dictionnaire Raisonné Des Sciences, Des Arts Et Des Métiers*, by Denis Diderot and Jean Le Rond D'Alembert. 1751-1772.
These plates, illustrating the methods used by the tailor, are examples from one of the earliest known texts published on tailoring, predated by the Spanish text by Juan de Alcega, *Libro de Geometrica, Práctica y Traça* (1589). Both of these texts focus on the optimal layout of patterns on cloth and stitches used in the garment's assembly. Neither book discusses how the shape of the cut is determined.

In the hope of finding some lost system from the beginnings of the tailoring trade, I found Wampen's *Anthropometry* (1864), one of the earliest texts to theorize how garments could be made into sizes that would work for the general population. Wampen's text consists of a set of

mathematical equations that are meant to address the more complex differences in proportions of an individual (see fig. 10).

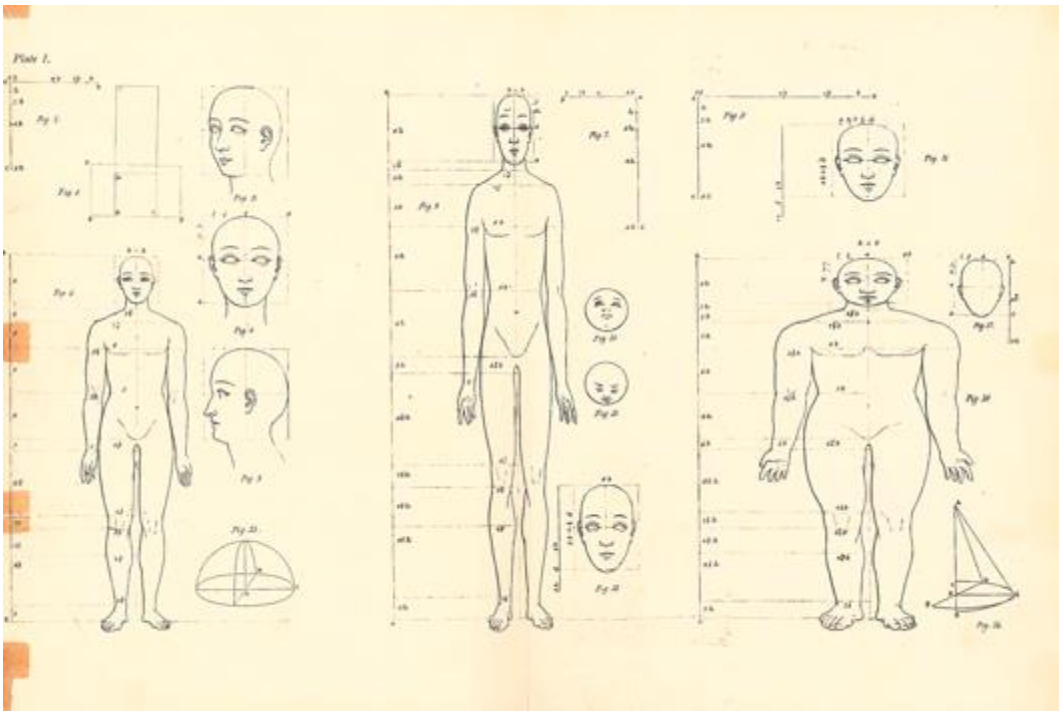


Fig. 10 Henry Wampen. *Hymenean Form, Mercurial Form and Herculean Form*. Illustration. In *Anthropometry: Or Geometry of the Human Figure*, by Henry Wampen. London: John Williamson Company Limited, 1864. Plate i.
This plate highlights the fact that changes in the human form's height and breadth proportions are more complex than simply scaling up or down.

The search for texts yielded many results, especially throughout the 19th Century. This included an early text on fitting garments that introduces the tailor to the concept of a fitting (Shaw [circa 1880]). As in Wampen's text, I found language that I find more preferable as a tailor: a "try-on" as opposed to a "fitting". I prefer a "try-on" as the term doesn't assume a right and wrong answer as a "fitting" might. Many early books on pattern drafting, including Wampen's text, make claims that the art of cutting is

scientific and that a skilled craftsman should also be a mathematician and be able to use mathematical formulas to find the right answers without the need for a fitting (Wampen Part Third 1864, 9). *The Art of Trying-On or Fitting* cautions that even if a cutter's skills are at this level, their interpretation of good fit for an individual may not be what the individual interprets as good fit (Shaw [circa 1880])

J. King Wilson's (1948) book on fitting, *The Art of Cutting and Fitting*, is a mid-20th century text, a landmark study in finding good fit. Wilson's text is not about drafting, but adapting a pattern, or adjusting a draft to accommodate an individual. Throughout the text Wilson breaks down the art of fitting into a series of independent moves that address one issue with fit at a time. Earlier texts, such as *The Art of Trying-On or Fitting,* worked with the premise of tailored clothing being made from moldable and thicker woolen cloths that could be easily stretched and formed with an iron (Shaw [circa 1880]). These techniques dealt with several issues of fit in one movement of cloth. Mid-20th century spinning and weaving processes produced cloths that doesn't allow for this type of manipulation.

J. King Wilson's (1948) text gave me a starting point to explore fit. I was able to look at each one of Wilson's isolated movements and apply a variety of extreme exaggerations in the right or wrong direction. I produced a series of 20 experimental jackets in muslin. *Pattern Piece for A Study in*

Vertical Balance - Passing up the Back (see fig.12) is a framed pattern piece shown in a state of manipulation and presented as a piece of art to be contemplated with *A Study in Vertical Balance - Passing up the Back* (see fig. 13), the three-dimensional results of this flat piece.

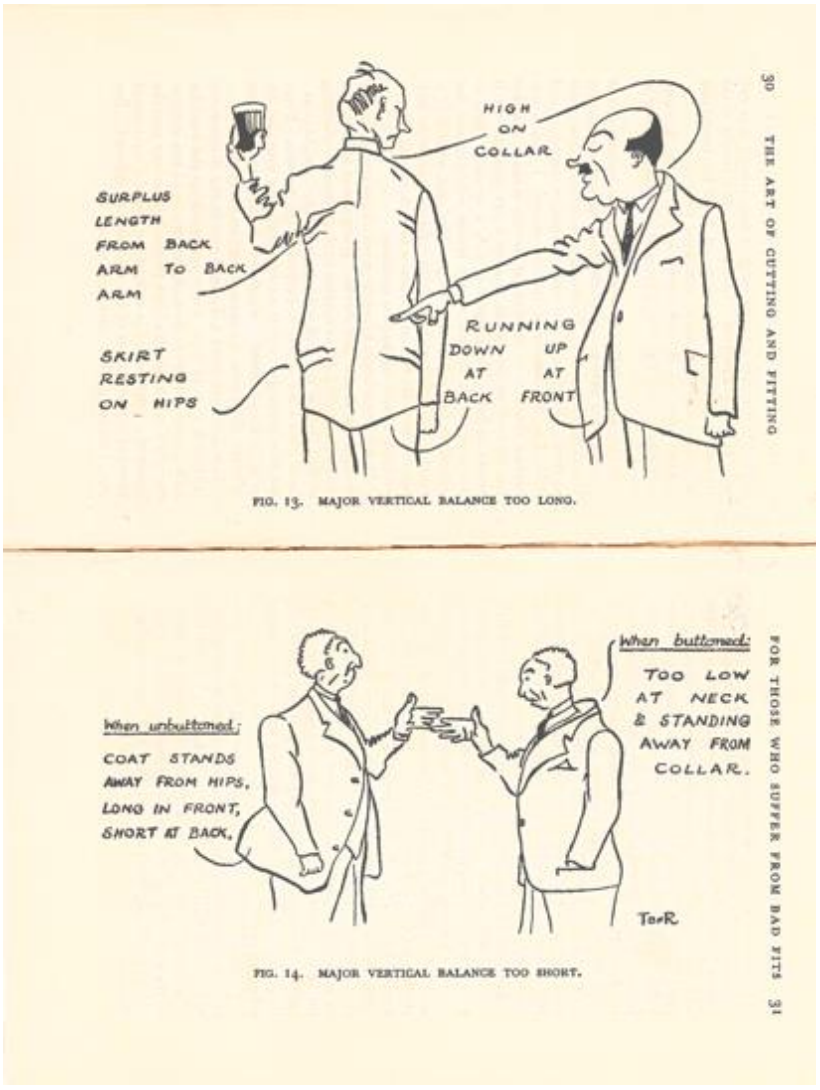


Fig. 11 Theodore B. F. Ruoff. *Major Vertical Balance Too Long, Major Vertical Balance Too Short*. Cartoon. In *The Art of Cutting and Fitting: A Practical Manual*, by J. King Wilson. London: Crosby Lockwood & Son, 1948. 30-31.
J. Wilson is the first to break down the art of fitting into adjustments that address a single difference on the body. Previous texts use complex movements that address two or three issues at one time.

Fig. 12 Philip Sparks. *Pattern Piece for A Study in Vertical Balance - Passing up the Back*. 2018. Toronto.

Fig.13 Philip Sparks. *A Study in Vertical Balance - Passing up the Back*. 2018. Toronto.

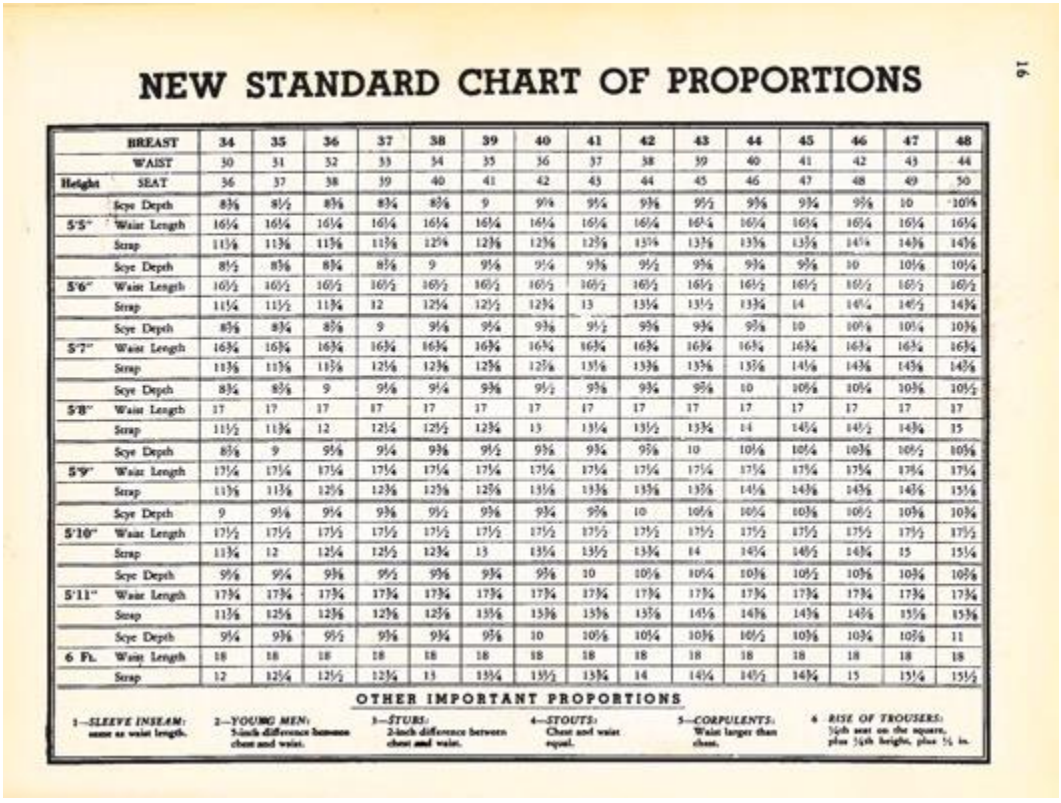
This exploration hinted at new and exciting ways to explore fit, but this still did not answer my question of how to best draft for an individual. This brings me back to the anthropometric data that I was so interested in when I started this research.

Has our anthropometric data changed? Surely our lifestyles and occupations have changed, but have our bodies changed too? Is my issue that I don't have the right formula to work with?

I should describe that a pattern in tailoring and clothing construction refers to a paper template that is used to cut cloth in the construction of garments. The pattern controls the final shape and size or fit of a garment. Patternmaking in tailoring and clothing construction is a system for adapting previously developed patterns for fit or style. Pattern drafting in tailoring is the creation of a new patterns from scratch, usually from a mathematical formula.

My personal experience of working with pattern drafts (both historic and contemporary) have led me to the conclusion that they don't accommodate individual bodies. Mathematical pattern drafts rely on anthropometric data and individual bodies don't follow any prescribed set of proportions. For example, if I am tasked with drafting the pattern for a jacket and the client has a waist circumference that is larger than their chest, this is a challenge as most drafts published assume a smaller waist to chest ratio. The mathematical equation will not work out. As a tailor, I

am more often than not faced with a body that doesn't conform to published standards. *New Standard Chart of Proportions* (see fig. 14) from *The New Mitchell System of Men's Designing*, published in 1951, is an example of a set of anthropometric proportions. In my practice, I have not yet measured an individual whose measurements conform to any of the many charts I have gathered.



NEW STANDARD CHART OF PROPORTIONS

16

		34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	BREAST	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	WAIST	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
Height	SEAT	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
	Scye Depth	8⅜	8½	8⅝	8¾	8⅞	9	9⅛	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛
5'5"	Waist Length	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼	16¼
	Strap	11⅜	11⅜	11⅜	11⅜	12⅛	12⅜	12⅜	12⅝	13⅛	13⅜	13⅜	13⅝	14⅛	14⅜	14⅜
	Scye Depth	8½	8⅝	8¾	8⅞	9	9⅛	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛	10¼
5'6"	Waist Length	16½	16½	16½	16½	16½	16½	16½	16½	16½	16½	16½	16½	16½	16½	16½
	Strap	11¼	11½	11¾	12	12¼	12½	12¾	13	13¼	13½	13¾	14	14¼	14½	14¾
	Scye Depth	8⅝	8¾	8⅞	9	9⅛	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛	10¼	10⅜
5'7"	Waist Length	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾	16¾
	Strap	11⅜	11⅜	11⅝	12⅛	12⅜	12⅝	12⅞	13⅛	13⅜	13⅝	13⅝	14⅛	14⅜	14⅝	14⅞
	Scye Depth	8¾	8⅞	9	9⅛	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛	10⅛	10⅜	10⅝
5'8"	Waist Length	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17
	Strap	11½	11¾	12	12¼	12½	12¾	13	13¼	13½	13¾	14	14¼	14½	14¾	15
	Scye Depth	8¾	9	9⅛	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛	10¼	10⅜	10½	10⅝
5'9"	Waist Length	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼	17¼
	Strap	11⅜	11⅜	12⅛	12⅜	12⅝	12⅞	13⅛	13⅜	13⅝	13⅞	14⅛	14⅜	14⅝	14⅞	15⅛
	Scye Depth	9	9⅛	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛	10¼	10⅜	10½	10⅝	10¾
5'10"	Waist Length	17½	17½	17½	17½	17½	17½	17½	17½	17½	17½	17½	17½	17½	17½	17½
	Strap	11¾	12	12¼	12½	12¾	13	13¼	13½	13¾	14	14¼	14½	14¾	15	15¼
	Scye Depth	9⅛	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛	10¼	10⅜	10½	10⅝	10¾	10⅞
5'11"	Waist Length	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾	17¾
	Strap	11⅜	12⅝	12⅜	12⅞	12⅝	13⅜	13⅜	13⅝	13⅝	14⅛	14⅜	14⅜	14⅝	15⅛	15⅜
	Scye Depth	9¼	9⅜	9½	9⅝	9¾	9⅞	10	10⅛	10¼	10⅜	10½	10⅜	10¾	10⅞	11
6 Ft.	Waist Length	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
	Strap	12	12¼	12½	12¾	13	13¼	13½	13¾	14	14¼	14½	14¾	15	15¼	15½

OTHER IMPORTANT PROPORTIONS

1—*SLEEVE INSEAM:* same as waist length.

2—*YOUNG MEN:* 3-inch difference between chest and waist.

3—*STUBS:* 2-inch difference between chest and waist.

4—*STOUTS:* Chest and waist equal.

5—*CORPULENTS:* Waist larger than chest.

6 *RISE OF TROUSERS:* ⅛th seat on the square, plus ¼th height, plus ½ in.

Fig. 14 Frank C. Doblin. *New Standard Chart of Proportions*. Chart. In *The New Mitchell System of Men's Designing*. By Frank C. Doblin. New York: American-Mitchell Fashion Publishers, 1951. 16.
This is an example of anthropometric data, a chart of proportions used in the drafting of a pattern. If the proportions listed in a patternmaking text are not followed, the formula will not work, like trying to find the diameter of a circle without using Pi. A pattern will still be adjusted to an individual using principles of fit.

I undertook my independent study in anatomy with Dr. Tulk to better understand how the human body moves and with the hope that I might find research in the medical field on how the body grows and differs. I found myself looking at even more idealized figures and illustrations than those featured in tailoring texts. Once some initial understating of movement and parts of the human figure had been undertaken, further observations of actual specimens emphasized the huge differences that can be observed in single parts of the body. It is not just flesh and muscle that shape and form the body. A hip bone is not just a hip bone, a skull is not just a skull. There are the obvious differences to be found in the general size and length of some specimens, but the effects of one's own life can clearly be seen on many parts of the body. For example, the skull of an old women with no teeth was very small because a lack of chewing in the later part of her life resulted in a very small mandible or jaw bone. I found, in the medical journal *Nutrition Today,* answers to one of the questions I had been asking. Our bodies are different today than they have been in the past. Frank Nutall (2015) writes in his article, *Body Mass Index Obesity, BMI and Health a Critical Review*:

> Over the past several decades, there has been an increase in BMI in the general population. This has resulted in predictions of a public health disaster. It should be recognized that in the United Sates during the period from 1960 to 2002 not only the mean weight increased by 24 lb among men aged 20 to 74 years, but also the height has increased by about 1 in. (121)

So there is a new set of standard proportions that could be found. *Size North America* (Size North America 2017) is an example of a current study that aims to scan over 20,000 volunteers across North America. It is funded by corporations such as GM, the Gap and Hanes. I question such studies as they aim to provide businesses with an easy average to use, but as I've already shown, establishing such averages rarely provides a practitioner with the information they actually need to fit individuals. Figure 15 is an illustration of the 15 size ranges offered by the French tailoring firm Eversmart circa 1950. Today, most firms offer only one size range. My research into historic tailoring also revealed many tools aimed at simplifying the taking of measurements of individual bodies. These ranged from complex rulers (see fig. 16) to an advertisement for photogrammetry circa 1960 using a super 8 film camera. I can across this advertisement while rummaging through articles on tailoring at La Galcante, a newspaper clippings store in Paris, France. All of these tools quickly fell out of use, most likely due to inaccuracy, and I can't help but feel the more recent attempts at using digital photogrammetry will also fail to provide insight into the needs of individuals outside of what is considered the new average or standard, and for different activities.

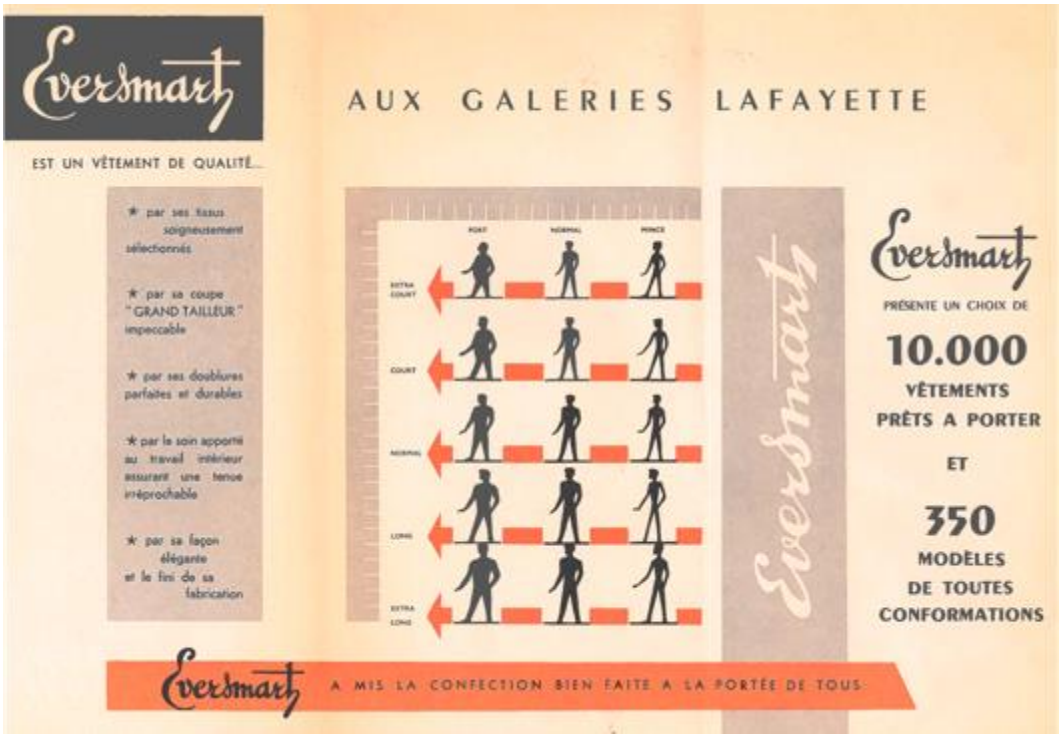
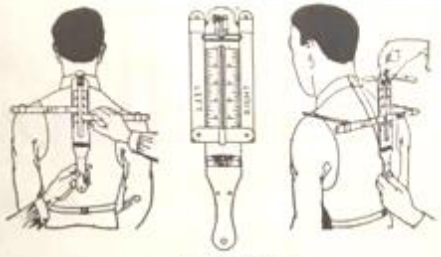


Fig.15 Eversmart. "Eversmart: Exclusivite Des Galleries Lafayette." Pamphlet. n.d.



THE MESURITE

CLOTHES VALUE—PLUS FIT

A tailor's business is to give his trade not only **style** and **quality**, but also **well-fitting clothes.** Such service adds to his **success** and **benefits.**

The majority of **men** and **women** have a right or left lower shoulder or a round back, with no two alike. They cannot be fitted with a regular drafted pattern, regardless of how good it is, or how well it looks.

The naked **eye** cannot measure physical abnormalities, and when one of them is overlooked, it is the cause of some major alterations in the finished garment and the **loss** of **good trade** by dragging them back and forth.

It is a **problem** to **fit** properly any abnormally-built customer with the mere tape measure or by **guessing** at his **posture.** You **must** have the proper **tool** to obtain the **vital** measurements of the abnormally-built **body** . . . that is **essential** to cut garments for the individual that will **fit** him **right** and **save unnecessary alterations.**

Why not **MESURITE** and **save?** — It will **do a world of good for you;** it will **solve fitting problems,** and **save** many and many dollars of alteration **costs.**

The **MESURITE** will be a **treat** to your **trade** that will **enhance** your **business** by giving customers **well-fitting clothes.**

The **MESURITE** gauge detects any abnormal features of the body, resulting in correctly-fitting clothes for each individual. There is **no guess-work!** With this information, and with our instructions, you can make the necessary alterations in the pattern, and when the garment is cut and made, it will **fit** perfectly snug around the collar and shoulders. You have suited your customers, and you **benefit** by making them **happy** with **well-fitting clothes.**

The **MESURITE** with complete instructions
sells for. **$25.00**

Mail P. O. money order or check to

THE MESURITE TRADE MARK CO.

343 ELLICOTT SQUARE BUILDING
BUFFALO 3, N. Y.

Fig. 16 The Mesurite Co. "Clothes Value-Plus Fit." Advertisement. In *The New Mitchell System of Men's Designing.* By Frank C. Doblin. New York: American-Mitchell Fashion Publishers, 1951. 291.

Sara Ahmed's (2006) *Queer Phenomenology* offered me a new platform to investigate these ideas of fit. Rather than working towards making garments that let people fit in, I have explored making garments that don't fit in. *A Study in Vertical Balance: Jacket # 21* (see fig.17) is a finished jacket, an exaggeration of the exaggerated studies in vertical balance. It is the opposite alteration of *A Study in Vertical Balance – Passing up the Back*, with a longer front as opposed to a longer back.

Fig 17 Philip Sparks. *A Study in Vertical Balance- Jacket #21*. In *The Globe and Mail*. September 27, 2018. Accessed February 18, 2019. Photo: Shalan and Paul https://www.theglobeandmail.com/life/style/article-think-suits-are-stuffy-these-eight-looks-for-fall-prove-otherwise/.
Jacket #21, a finished piece, is an exaggeration of an exaggeration in vertical balance.

Weaving

> Now that many garments are offered cheaper than a sandwich, we all know and feel that something is profoundly and devastatingly wrong. How can a product that needs to be sown, grown, harvested, combed, spun, knitted, cut and stitched, finished, printed, labeled, packaged and transported cost a couple of Euros? (Edelkoort 2015, 2)

I include this quote not to serve as a warning against fast fashion, but rather as a reminder that a piece of clothing is a highly processed item, a fact that is all too easily overlooked. As a tailor, my part in this process usually focuses on the cutting and sewing. My thesis work does focus on the cutting aspect, but also explored weaving.

During my research for my exhibition, I learned how to weave cloth. I did this while considering Barthes' theory of the meaning of small details in dress. If buttons add meaning to dress, then so does the cloth that a piece of clothing is cut from. I learned to weave so that I could make my own mark on as many layers of my creative piece as possible.

Weaving is the orienting and interlacing of yarns at 90-degree angles to one another to produce a flexible material that, for my purposes, one that can drape comfortably over the body. As part of my thesis exhibition, I wove the cloth for a grey flannel suit. I did this because ready-made cloths available to me are uniform, consistent overall with perfectly repeating plaids or stripes across the fabrics, and or twills, ribs that run

diagonally across the cloth. I wanted to work with a cloth that didn't fit in. I wanted to be able to play with the identity of the suit as a uniform and conservative garment at a level deeper than just how it had been cut.

I wove the fabric for *A Suit Made Not to Fit* so that I could have a non-uniform cloth. I created a cloth with a coloured stripe that did not repeat or complete a geometric pattern. I changed the direction of the ribs or twills to run off in opposing directions rather than diagonally across the full piece. In addition to creating a piece that challenged mechanical fit, I created a piece of cloth that also challenged the type of material that's appropriate for making a suit.

While dressing my loom, threading all of the yarns on it, I lost track of time. Planning weaving requires one to read a pattern backward and upside down, not a pattern as described for cutting the cloth but a pattern used for making cloth, it determines which threads are lifted and which ones are not. Dressing a loom according to a weaving pattern ultimately determines what the final structure of the cloth will be and what geometric patterns will be produced. The loom is dressed, or threaded, from right to left instead of left to right, or how I am used to reading text. While weaving, I had to think of the cloth as it advanced towards me, upside down from how I intended on using it. This queering of reading and interpreting the loom was an unsettling, unexpected experience.

In addition to reading backwards and upside down, I found my attempts at creating a non-uniform cloth to unexpectedly challenge my experience. The threading of the long warp threads that run the length of a fabric is a repetitive process. With a simple repeating pattern this process of threading allows the weaver to become very well oriented with the loom. The non-uniformity desired in my cloth prevented me from becoming comfortably oriented with the loom. My process was constantly disrupted and rethought.

I had yet to begin the weaving, but with the loom dressed, it felt quite out of balance, with all the weight of the yarn on the back warp beam. I found myself having to be very gentle with my movements as to not let the loom fall away from me. The organization of the yarns as they get threaded through the eyes of the heddles and the reed (the bars that hold the yarns in place) made me think of the arrangement and organization of the theories and methodologies I had immersed myself in. The tension (tightness) of the yarns reflects the tension that I felt as I prepared to start something new, the nervousness and excitement of a new process.

Weaving the fabric for *A Suit Made Not to Fit*, a finished set of garments presented in the exhibition, allowed me to incorporate unexpected details into my work before cutting. My meticulously planned non-uniformity for the cloth unfortunately fades into the background of *A*

Suit Made Not to Fit. It is my genuine mistakes in the weaving process that show as flaws in the cloth and it is these flaws that are most noticeable in the finished piece. A great deal of planning went into calculating that yardage, or length of the cloth, that I needed to produce a suit of garments. The cutting of this cloth proved a challenge as my calculations went wrong. The cloth shrunk considerably in both length and width. Ironically, the pattern pieces for *A Suit Made Not to Fit* did not fit on the cloth itself. The retrofitting and compromises needed to accommodate *A Suit Made Not to Fit* and the genuine mistakes or flaws in the cloth made me question my abilities as a maker. As I sat in the gallery during my exhibition and looked at these pieces, I struggled with the fact that I wanted them to not fit in a specific way, and instead they don't fit in another.

Fig.18 Philip Sparks. *Missed Fit* (Installation Shot- 2104 Dundas Street West) *Casting On, Casting Off and Leclerc Four Harness Jack Loom*. 2019. Toronto. Photo: Kristy Boyce

Weaving offers the opportunity to explore material and the role it plays creating meaning in clothing. Shown here are the beginning and the end of the 12-metres of cloth hand-wove for A *Suit Made Not to Fit*, a finished ensemble of garments presented as part of this exhibition, with all of the tension cut out of the middle. Small mistakes or flaws in the weave add to the “missed fit” of the piece.

Part 2

How do you fit in?

While studying in Florence, Dr. Giraldi-Haller my art history professor, introduced me to the works of Renaissance artist and architect Fillippo Brunelleschi and his thinking behind Basilica di San Lorenzo and its Sacristy. The Sacristy at Basilica di San Lorenzo informed the work that I produced while in the city, specifically my *Dome Shirt*.

I was drawn to this piece of architecture because of its anthropocentric nature. Brunelleschi's incorporation of Vitruvian proportions from *On Symmetry: In Temples and in the Human Body* in *The Ten Books on Architecture* (Vitruvius 1960, 72-75) are clearly marked out on of the floors and columns in Basilica di San Lorenzo. My past studio works and writings had looked to these Vitruvian writings in an attempt to get a better picture of what was once considered ideal and to challenge those ideals. Of course, the actual measures applied in this style of architecture are based on what Vitruvius describes as "A well formed man" (Vitruvius 1960, 72), or what was considered one in 30 to 50 BC.

My creative work in Florence questioned ideal bodies through fit. Brunelleschi's dome offered me an opportunity to explore the geometry based on an ideal human form used in architecture and apply that

geometry to a paper pattern that was then used to cut a shirt that no longer fits the body as we expect today (see fig. 19).

Fig.19 Philip Sparks. *Missed Fit* (Installation Shot- 2104 Dundas Street West) *Pattern for a Dome Shirt*. 2019. Toronto. Photo: Kristy Boyce
Inspired by Brunelleschi's interpretation of Vitruvian writings in the dome of the sacristy in Basilica San Lorenzo, a pattern for a shirt uses the same Vitruvian proportions. Brunelleschi designed the sacristy and its dome referencing a section in *De Architectura* (*The Ten Books on Architecture*) called "On Symmetry: In Temples and in the Human Body," the same writings that inspired da Vinci's *Vitruvian Man*.

I reflect on this earlier studio work here because my experience of presenting it was the starting point for my thesis exhibition. Showing it on my own body placed me in an unexpectedly vulnerable position. There was no mirror in the studio, so I could not see the work myself. I am accustomed to presenting my work on a model. Presenting experimental work that I had made not to fit, with no clear sense of what my classmates were seeing was very challenging for me to overcome. In my presentation

of *Dome Shirt,* it was not just my work being criticized, it was me – I was a part of the work. I felt somewhat naked under the piece I had made, with no cloth left between my arms and my torso. This presentation momentarily challenged my sense of ontology, of who I was at the moment. It was evidence of Elizabeth Wilson's (2003) theory in *Adorned in Dreams*: "dress is the frontier between self and the not-self" (3). Are we what our bodies say about us or how we present our bodies?

Fig. 20 Philip Sparks. *Dome Shirt*. 2019. Toronto. Photo: Carlyle Routh

Vitruvius's writing and this ideal of a well formed man has been used for over 2,000 years, and still represents the idealized surface anatomy of a man, so I couldn't resist trying to compare myself to it. I produced the piece, *A Reflection on the Vitruvian Man*, in collaboration with artist Kal Mansur. *A Reflection on the Vitruvian Man* is an abstraction of Leonardo da Vinci's (1490) drawing of the *Vitruvian Man*. This was da Vinci's interpretation of Vitruvius' (1960) section in *The Ten Books on Architecture* (*De Architectura)* called *On Symmetry: In Temples and in the Human Body* (72-75). This abstracted drawing has been milled into clear acrylic, filled in with black acrylic paint and hung from the ceiling in front of a four-panel mirror. One can stand in front of *A Reflection on the Vitruvian Man* and view one's own reflection though it. This piece allows viewers to compare themselves to the Vitruvian Man. I used this idealized figure because it represents an unobtainable standard that I try to live up to.

Fig. 21 Philip Sparks. *Missed Fit* (Installation Shot- 2104 Dundas Street West) *A Reflection on the Vitruvian Man*. 2019. Toronto. Photo: Kristy Boyce
Da Vinci's (1490) illustration the *Vitruvian Man* is still used today as a symbol for the idealized surface anatomy of a man. Etched into clear acrylic, the figure presented here is scaled to a height of six feet. In *TheTen Books on Architecture*, Vitruvius (1960) writes, "…as the foot is one sixth of a man's height, the height of the body as expressed in the number of feet being limited to six, they held that this was the perfect number" (74).

Part 3

How do you feel when someone who doesn't fit in enters the room?

Taking some of the results found in earlier studio works, *A Study of Vertical Balance*, 20 jackets in muslin that tested theories and principles around technical fit for tailored jackets, I produced *A Suit Made Not to Fit*. As I did with *Dome Shirt*, I put myself on both sides of my sheers and acted as both tailor and client. I took areas of my body that would usually require some accommodation in cutting and exaggerated them.

For the jacket, where I required extra cloth for a broad back, I instead took cloth away. For the front, where I needed to take cloth away to accommodate a hollowed out chest, I added cloth and exaggerated the effect even further by extending the length and stiffening the hem. For the trousers, surplus cloth was added to the front in both width and length, resulting in a trouser front that folds fully over itself and a waist line that approaches my chest. The shirt sleeves are lengthened, changing the overall proportions of the piece. It is all presented on a mannequin made from a mould of my body to emphasize my personal experience of fit.

Fig. 22 Philip Sparks. *Missed Fit* (Installation Shot- 2104 Dundas Street West) *A Suit Made Not to Fit*. 2019. Toronto. Photo: Kristy Boyce
A Suit Made Not to Fit features many subtle details that create the experience of not fitting in. The stand that the suit is displayed on is made from a mould of the designer's body to exhibit the garments in a way that emphasizes a personal experience of fit.

In *Photographs of a Suit Made Not to Fit*, I come back to questions brought up earlier in Elizabeth Wilson's (2003) text. I felt that I could not fully cover the meaning I was hoping to achieve by simply displaying *A Suit Made Not to Fit* on a mannequin. I needed to be in the piece because I added to its meaning. As it would have been impossible for me to wear the suit and interact with my audience for the duration of my exhibition, I collaborated with fashion photographer Carlyle Routh and makeup and

hair artist Robert Weir to have myself photographed in *A Suit Made Not to Fit.* The images are presented as *Photographs of a Suit Made Not to Fit*, each of which illustrates a different view of myself in the garments: left side, front, right side and back profiles.

While being photographed, I again found myself in a vulnerable position similar to when I wore the *Dome Shirt* in front of my classmates in Florence. I have directed many fashion photo shoots from behind the camera, but this time I was in front. Every time there was a pause in the photography, personal questions arose in my mind about my abilities as a model, about the legitimacy of my experimental work and whether or not the whole thing made any sense. This confirmed my theories that clothing truly can offer – or deny – an individual's sense of identity and ability to fit in. During the shoot, I had to consistently remind myself that the pauses in photography where not a criticism of me or my work, that Carlyle was most likely checking lighting conditions and the quality of the images themselves. The images capture the movement of my body twisting and attempting to conform my body to *A Suit Made Not to Fit*.

Fig. 23 Philip Sparks. Carlyle Routh. and Robert Weir. *Photographs of A Suit Made Not to Fit*. 2019. Toronto.
The wearer imparts meaning to clothing. These images, created in collaboration with photographer Carlyle Routh and makeup artist/hair stylist Robert Weir, highlight the struggle of trying to move the body to fit in to a full ensemble that was made not to fit.

Part 4

How do you experience fit?

The final element of the exhibition, *A Fitting Room*, invited the audience to participate in the experience of a missed fit by trying on a variety of shirts made not to fit. *200%* is a shirt with its pattern enlarged to 200 per cent of my own shirt size to create more of a long gown than a shirt. Despite its outsized form, I did not want *200%* to become too comfortable for the wearer, so I made it from a very fragile cloth with very little cohesiveness. This meant that one had to be very careful trying on and wearing the piece as a finger could easily puncture the cloth. Many visitors told me that this piece reminded them of trying on their parents clothing as a child (see fig. 24).

Fig. 24 Philip Sparks. *200%*. 2019. Toronto. Photo: Carlyle Routh

As a counterpoint to *200%*, I made *75%*. This was a shirt made 25 per cent smaller, which produced a significant difference in the size of the finished piece. *75%* was made from a four-way stretch fabric so that those who tried it on could have the experience of trying something on that was too small. Of course, I had two guests that fit the shirt quite well, received a hug and words of gratitude for producing something that fit someone who normally has issues with clothing being too large, usually left wearing children's clothing.

Some of the pieces looked at restricting movement as an issue with fit. *Abduction,* meaning "moving away"(Marieb 2011, 214), is a shirt made

with the arms attached too low. *Abduction* is designed to prevent the wearer from lifting their arm away from body. Many new end uses, such as capes, were referenced as guests tried on this piece (see fig. 25).

Fig. 25 Philip Sparks. *Abduction*. 2019. Toronto. Photo: Carlyle Routh

Upside Down was a shirt with the sleeves set upside down, again with the intention of restricting movement of the arms, but this time leaving the participant unable to comfortably put their arms down by their sides.

Abdomen and *Neck* are both shirts where one part of the shirt was enlarged. In *Abdomen*, a front section of the shirt was enlarged by 200 per cent and gathered back into an otherwise regular white shirt. This was a play on enlarging a part of the body that I am usually conscious of

minimizing. *Abdomen* presented several ways of being worn. Many people suggested that it could be worn when carrying a child. I myself tried to wear an oversized pair of trousers and *Abdomen* for a day and concluded that I was too afraid I might just get comfortable and let myself grow into them. *Neck* was made with a neck opening too big, exposing most of the chest abdomen and navel. It was meant to question the concept of appropriateness in clothing, but most guests simply appropriated the shirt and thought of it as a new type of jacket instead (see fig. 26).

Fig. 26 Philip Sparks. *Neck*. 2019. Toronto. Photo: Carlyle Routh

Watching the audience try on these pieces over seven days illustrated how body proportions and personal identity overlap in the experience of fit. As a tailor, it's important to set aside my own

expectations of how someone else will respond to the fit of a piece of clothing. An individual's reaction to trying on a garment is rarely what you expect.

Conclusion

It is my conclusion that clothing designers should spend less time and effort trying to apply an approach to patternmaking that is based on outdated quantitative data in favour of a more experimental approach. Quantitative data is static information and the human body is in a constant state of movement and change. It is more productive to focus on addressing each unique body presented, using observations and experimentation to find fit. My research has shown that there are alternate ways of addressing mechanical fit in the design of tailored clothing.

While it is important to keep anthropometric data up to date, we must recognize that people are left out of the fashion system because it is systemized. It is my hope to continue this research and publish a text that can be used by teachers and students who rely on applying anthropometric data in order to help them open up their methodology. In fashion education, the traditional way of teaching patternmaking is to have students start with an existing developed pattern in what is called a sample size, usually suited to a tall, thin model. But I believe that the experience of fitting a variety of bodies is essential to making them better designers, cutters, patternmakers and fashion professionals.

My text will continue to explore exaggerated principles in fit in patternmaking for clothing design, highlighting new ways of looking at

mechanical fit. It is my hope that these exaggerated results will make the observations of subtle issues with fit more apparent, and make the text a useful guide for tailors facing fit issues in their day-to-day practice.

The accommodations required for a more individualized approach to patternmaking are complicated, but the time invested in analyzing standards would be better used to train practitioners to adapt to the body in front of them. As a result of this research, I have changed my approach to fitting clients. I know focuses on how an individual feels in a garment, rather than imposing my personal opinions of fit. In my teaching practice, I have adapted my learning outcomes to focus on adapting patterns to individuals rather than focusing solely on construction techniques that result in all students making the same tailored jacket.

It is important to acknowledge that this research also emphasizes the influence that makers can have on an academic study of fashion. Much of the works published in the field are by historians, philosophers, theorists and anthropologists. More research is needed from those who directly infuse dress with meaning, from the perspective of those engaged in the design and crafting of clothing.

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