Pushing Tailoring Techniques To Reinforce *Up* Character Design

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Traditional patternmaking techniques have evolved to fit typically proportioned humans. Although these techniques have proven useful in altering patterns to fit characters in previous computer-animated films, the design of the characters in *Up* necessitated exaggerated alterations. The extremely caricatured characters were born of simple geometric shapes – a boy as a circle, an old man as a square, and a lady as an hourglass. Understanding the characters’ designs determined the appropriate pattern alteration techniques and how they would need to be exaggerated for each garment.

1 Caricatured Design

In traditional tailoring, the subject’s proportions dictate the location of changes in the garment to best fit the model. If a model has a short torso, the pattern for the garment can be shortened at the torso to provide the best fit. A challenge arises when using traditional patternmaking techniques to clothe these characters as their proportions vary vastly from those of typical humans.

![Figure 1: Form of a normal human boy compared to that of caricatured Russel in *Up*. ©Disney / Pixar. All rights reserved.](image)

Russell’s body has exceptionally short and thick legs, an exaggerated belly and rear, and a shortened torso. The patterns generated to fit a typical human boy and those generated to fit Russell vary vastly in proportion. If Russell were to wear a shirt proportioned for a typical boy and sized for his chest, he would be wearing a garment that would not button closed, show his midriff, and loosely engulf his elbows and shoulders.

2 A Round and Disheveled Russell

Russell’s round design reflects how he has not yet been hardened by life. Clothing this round shape was possible through the use of pattern darts. Darts add dimension to flat fabric by forming concave and convex shapes. A dart seams two cuts at an angle in a pattern together to form an apex. In traditional tailoring, darts are commonly found under a bust line, above the rear, or around the stomach. Patterns created for Russell reflected the usual positions for darts, but also required several inventive positions and exaggerated scaling.

![Figure 2: A Pattern for a typically proportioned boy. B. Russell’s caricatured shirt pattern. ©Disney / Pixar. All rights reserved.](image)

For example, darts in the side seams of his shirt and shorts allowed for the apex of his round profile. Darts, in the front of his shirt kept the shirt bottom close to his waist, while keeping the apex of his belly snug as well. Russell’s shorts gather material, in the manner of a dart, to keep his rear and crotch area flush to his body, but allow the shorts’ legs to flare outwards. The use of exaggerated darts in non-traditional locations allowed the tailors to create garments that further supported the intended shape of Russell.

3 Carl’s Square Shape

While most humans have continuous and subtle curves which shape their bodies, Carl’s character design is a square shape to convey an old man hardened by life. Because the jacket is the emphasis of his ensemble, it must complement the square design of older Carl. To give the jacket a structural and rectangular look in the front profile, the straightness and angularity of the shoulder lines were exaggerated. In traditional tailoring, interfacing and soft objects, like shoulder pads, add structure and form to garments. After pushing the pattern to its limits in maintaining this square shape, augmented shoulder pads were used to support the feeling of structure in Carl’s shoulders. In his younger adult form, to maintain the square look of the pants, a rectilinear inseam was used. This technique, avoided in traditional pattern drafting, proved useful when drafting a pattern that reinforced the square shape of Carl.

4 An Outgoing Lovely Lady

Ellie was designed to capture the viewers’ hearts in the first few moments of the movie. She is outgoing and a balancing force to Carl’s square design. Her garments had to reflect her open personality by flaring outwards at the shoulders and feet. Many women’s garments are tailored to feminine curves through the use of seams contoured to the body. While this technique was useful in creating patterns for Ellie, her exaggerated hourglass shape required that the traditional contoured seams be widened and extended. To achieve her flared design, her garments required the use of additional fabric and structure in the shoulders, exaggerated and lengthened princess seams in the bodices, and fabric inserts in the skirt and shorts. Exaggerated contoured seams and strategic fabric inserts in Ellie’s garments achieved a flared look to support her character design.