

# La Mode du Monde: 1920 - 2020

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Figure 1: Fish Eye Zoom: A select partial view of our webpage, where one photo in the panel expands when hovering over it.

## ABSTRACT

In this paper, we discuss the design rationales and techniques behind the interactive data visualization, *Mode du Monde: 1920 - 2020*. We highlight the increased representation and stylistic convergence in this centennial fashion evolution.

## 1 INTRODUCTION

From fast fashion brands like H&M, to luxury retailers like Neiman Marcus, the past decade has seen a domino of bankruptcies rippling through malls worldwide. On the contrary, minimalist brands such as the Row and All Birds have captured the hearts of consumers with subdued expressions and visible comfort. We can't help but wonder: Is the pursuit of over-the-top glamour fast fleeting with time? Or can we take comfort in knowing that some couture are forever?

We've created an interactive data visualization as an opportunity for the public to ponder with us. By highlighting iconic styles of the past 100 years, the visualization explores the fashion evolution in both womenswear and menswear. We've incorporated various components including fisheye zoom with linear interpolation, two converging rows synchronized with a chronological slider, click-to-expand hidden sections, as well as color-coded & hover to display year stamp to enable a fully interactive experience for the audience. Additionally, we've artfully hidden our key message in the structure of our visualization as well as the *future* mark on the chronological slider. When a user moves the slider all the way past 2020 to explore the future of fashion, a message explodes on the screen with celebratory confetti. By adopting such a visually impactful surprise, we hope our audience concludes their fashion exploration with inspired optimism.

## 2 RELATED WORK

Two related works to note are *Front Row to Fashion Week*, circa 2014 by Bostock, Carter, Hinton, and La Ferla at the New York Times [1]

[fashion-week-editors-picks/index.html](#), and a visualization prototype by Sun in 2017 that is publicly available on Github [2].

We used Sun's visualization as a starting point, and made modifications and additions that would help us better meet the brief of our project. Specifically, we incorporated d3 in order to synchronize the two rows of fashion images. Additionally, we created slanted

rows in order to underline the convergence of styles and included a full-screen message with animated confetti to celebrate fashion trending towards gender neutrality.

## 3 METHODS

### 3.1 Slanted Rows

We chose to interpolate relative positions of photos in ascending and descending orders, for the womenswear and menswear albums respectively. This design choice highlights the distinctly gendered apparels in the early 1900s, and how fashion has progressed towards gender neutrality in the recent years.

### 3.2 Fisheye Zoom

Fisheye zoom is our approach to display a significant number of consecutive pictures. We believe that by implementing hover to zoom, we can include more pictures in a compact way without sacrificing the details of each picture. This functionality also gives users agency to explore whichever picture interest them the most. Although d3 has Cartesian fisheye built in, we choose to implement linear interpolation because we want to magnify the pictures without distorting them. While it might be appropriate to radially magnify edge-crossing in a network, it's important to preserve original dimensions of our images for the audience to properly visualize each outfit.

### 3.3 Click to Expand Hidden Section

Contrasting a hovering over approach, we included a click to expand functionality. We believe that hovering over requires less engagement, and should be implemented for the highest level of content discovery. However, if a user takes further interest in a specific picture in the womenswear line, with a click, they can explore similar clothes produced by contemporary designers.

### 3.4 Color-coded & Hover to Display Year Stamp

Since the chronological order is important in highlighting the fashion evolution, we implemented a hover to display year stamp, so the user can immediately know the corresponding year of a style, without having to use the slider. We choose to include two styles for every decade, in order to show photos in pairs, we color coded each pair for increased clarity. Additionally, these different colors highlight the cyclical nature of fashion, where consecutive decades have seen more formal and less formal styles in an alternating manner.

### 3.5 Synchronized Chronological Slider

With two converging rows of womenswear and menswear, we naturally chose a time slider to show the progression of fashion in the past 100 years by linking the slider's year with both the women's and men's iconic styles picture of that year. The slider is implemented using d3 [3] and when user drag it to a year-time, each slanted row would update the view and zoom the first picture of the decade following that year. As we mentioned in 3.4, we selected two pictures for each decade, in order to smooth the fisheye zoom throughout the years when the slider is dragged from left to right, the second picture of each decade would be zoomed when the slider is halfway between the decade and the next one. Since 2020s has just started, when slider reaches 2020, it will still show the last picture of two rows. In this way, using slider to show the fashion styles makes an alternate to the "hover over a single picture" interactive method where users can directly choose a certain year to view the styles. Moreover, using slider enables users to see both zoomed women's and men's styles at the same time, make it easier not only to compare the two genders' styles from the same decade but also to view how the fashion evolves chronically.

### 3.6 Full-screen Message with Animated Confetti

On the end of our slider is not a specified year but "*future*" where we conclude what our visualization with two converging rows of womenswear and menswear want to convey, that is "The future is all gender". We celebrate the self-expression and diversity behind the gender-neutral trend by using a falling confetti background. Confetti are circles drawn on a html canvas DOM and the animation is realized through `window.requestAnimationFrame()`. [4] When slider hits future, a full-screen message pops-up with animated confetti whose falling directions would follow users' mouse movements.

## 4 RESULT

### 4.1 Data

Since there's no dataset available online that could address our problem. We collect the relevant fashion photos of different times from various online sources from fashion blogs to picture sharing social media. For the womenswear row, we also found three similar clothes to the fashion photo by contemporary designers from various shopping websites. All the picture sources can be found in our GitHub repo `readme` page.

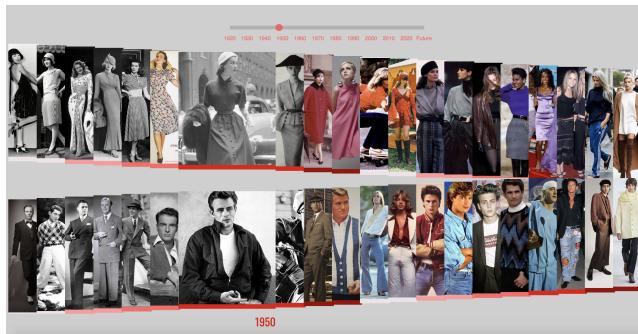


Figure 2: The whole view of the two converged womenswear and menswear rows.

### 4.2 Visualization

An example of fish eye visualization is provided in Figure 2 above. Horizontally, users can see how the fashion has progressed in the past 100 years. Vertically, users can compare the commonality and differences of men's and women's iconic styles from the same time.

Users can interact with the visualization by hovering on a single picture, clicking on the picture, and dragging the slider. we can see the overall trend in the past 100 years is from formal to leisure. The gender gaps are smaller and smaller that females are not solely defined by elegant dresses: they can be powerful in wide shoulder blazer in 1980s, pretty in the leather jacket in 1990s, laid-back in athleisure outfit in 2010s. Moreover, in recent year's runways, menswear are not limited to the masculine image anymore.

More inspiring insights from our visualization will be discussed in the next section.

## 5 DISCUSSION

### 5.1 All Colors are Feminine & No Color is Feminine

In the womenswear row of our visualization, we carefully selected pictures that can represent a wide variety of styles. We were interested in seeing if there were dominant colors in expressing femininity throughout history. However we were able to find iconic styles in every fundamental color, inadvertently creating a rainbow. We want to display that great women's styles are agnostic of color, and colors lack gendered connotations in great styles.

### 5.2 Cyclical Fashion & Recurring Styles

Through surveying fashion during an extended period of time, we are able to highlight different decades where people dressed exceedingly formal or informal. Upon close examination of women's styles throughout the years, one might notice a decade of mini dresses and vibrant colors is usually followed by a decade of long dresses & pants and decadent accessories. However, great styles are never dismissed or forgotten, we are able to research on each iconic style, and match currently retailed pieces to recreate it. Just like Yves Saint Laurent once famously said, 'Les modes passent, le style est éternel'. Through our visualization, we want to convey the timelessness of great styles, which can never be replaced by the numbness of fast fashion.

### 5.3 Designed by Everyone & Worn by Everyone

The aforementioned cyclical does not generalize well in recent years, as we see a progression towards laid-back street styles as well as the rise of gender neutral clothing. We choose to include pictures of recent runway, where menswear lines are adopting traditionally feminine tailoring and styles. All seem to be in visual harmony as the rows of womenswear and menswear converges. As the audience ruminate on the future of fashion, where the two rows are determined to cross, we reach the inevitable conclusion together, with confetti floating down the screen, "The Future is All Gender".

## 6 FUTURE WORK

Images, unlike numerical data we normally see, are rarely brought up in data visualization discussions. We see our visualization as a prototype to render fashion images chronically where viewers can have a view from a holistic standpoint and at the same time to have a chance to explore the details by the fish eye technique inspired by the New York Times. However, we believe that our visualization still has room for improvements in many dimensions.

Our visualization is heavily relied on the images we found and can be subjective to our understanding of fashion trend. Two images for a decade may not be able to represent the fashion trend of that time entirely. More research should be done to further extend the current visualization to incorporate more images without compromising the balance between the generality and details.

In addition, our visualization focuses on the European/American fashion trend. It does not truly represent the fashion of the world as our project name "la Mode du Monde" says. We would like to see

our visualization to be further expanded to include more countries and regions through which we can even find cultural shifts worldly.

Last but not least, designers always get inspirations from the past and we can already see recurring styles in our visualization. Provided a well-designed search algorithm, it is beneficial for designers to search for the one style that is now lost somewhere in the sea of fashion photos.

## REFERENCES

- [1] Bostock, Carter, Hinton, and La Ferla, *Front Row to Fashion Week, circa 2014*, New York Times  
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- [2] Sun, code reference at  
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