MoMA Audio: *Automania*
Adult Tour

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108. Introduction

Juliet Kinchin: Hello, my name's Juliet Kinchin. I'm one of the curators of the exhibition *Automania*.

Andrew Gardner: I'm Andrew Gardner.

Paul Galloway: And my name is Paul Galloway.

Juliet Kinchin: *Automania* is taking an in-depth look at cars, an object that has mesmerized generations of designers, architects, and artists.

Paul Galloway: It takes its name from the animated film *Automania 2000*. It looks at cars as objects of desire, and how we relate to technology and also how technology can run amok.

Andrew Gardner: We have these stunning specimens of both rare and mass market vehicles alongside artworks and design objects that amplify a richer and thornier story about the way car culture has reshaped our lives for better and for worse.

Juliet Kinchin: So looking at how cars have left a lasting imprint on the design of our built environment, shaped ideas about mobility, about popular culture, about what it is to be modern. We really wanted to address the conflicted feelings of compulsion, desire, and rage that have developed in response to cars and car culture throughout the 20th century.

111. Flaminio Bertoni, André Lefèbvre, Paul Magès, Robert Opron, DS 23 sedan, designed 1954-1967 (this example 1973)

Why is this car so low to the ground while parked?

Citroen advertisement: Citroen. Front wheel drive. A sculptured beauty. Hydropneumatic suspension. Aerodynamic shape. The French have a name for it: Citroen.

Paul Galloway: You're looking at a Citroen DS 23, a 1973 model, one of the last years of production of this car. When you pronounce it "DS," that is French for "goddess. And it's a beautiful car.

The top is a fiberglass roof, as opposed to a metal roof, that's to lower the center of gravity and to make it less top heavy, helping the car have this incredible road handling. One of its amazing features is a very unique suspension system called a hydro-pneumatic suspension. It automatically adjusts for potholes in the road, it can even keep driving if it's got a flat tire, it'll keep itself level, but when the car is at rest, it lowers down.

If you go around to the front, you'll notice directional headlights, the first time this had ever been done on a car. As you turn the wheel, the headlights turn with you so that you get better visibility as you go around turns.

Flaminio Bertoni is a legendary figure in the history of car design and his crowning glory is the Citroen DS. He brought an artistic perspective to a field that had been primarily dominated by engineers, up to that point. Because he had training as a sculptor, he did things like sculpt out bodies in clay.

The DS is coming out in a very tumultuous period in France's history. They're still rebuilding from the destruction and chaos of World War II. So when it debuted in 1955, it caused this incredible sensation and led to 80,000 pre-orders. Trading up to a DS was a clear mark of sophistication and economic well-being. It was expensive, but it was also immensely practical. You could fit a lot of people in there. It was fuel efficient. So, to a French family that was looking to signal their own economic success and also looking to drive a very safe car, it was the perfect choice.

112. Willys-Overland Motors, Inc., Jeep, designed 1952 (this example 1953)

Hear about the design features that allow this car to be folded up and shipped.

Andrew Gardner: The very first Jeeps were designed in 1940 at the outset of World War II. The United States War Department realized that they needed an easily maneuverable, four-wheel drive, reconnaissance military vehicle, capable of transporting 500 pounds.

An initial design was completed in just 18 hours by the car designer Karl Probst for the small automotive manufacturer American Bantam. Together, Bantam, Ford Motor Company, and Willys-Overland Motors of Toledo, Ohio began producing the first iterations of this combat-friendly vehicle, and over the course of World War II, some 360,000 were produced.

The M38A1 vehicle that we see here was designed in 1952. It's a faster, more robust version of Jeeps produced during World War II.

The Jeep is what one curator at the museum called "a sturdy sardine can on wheels." In order to maximize ground clearance over rocky terrain, the body was flat and compact. The gas tank is tucked under the driver's seat for further streamlining. The interior is spare, save for two seats, a steering wheel, a speedometer, and a fuel gauge.

It shows all of the nuts and bolts of its design. They can be easily dismantled, folded up, and shipped off for military operations, so they're extremely portable, box-shaped vehicles, and that's very much for a strategic reason.

122. Dante Giacosa, Fiat 500f city car, designed 1957 (this example 1968)

Why doesn't this car have a gas gauge?

Paul Galloway: As you approach the Fiat 500, known in Italian as Cinquecento, you'll notice that it's an extremely small car. The engine is mounted in the rear. It's a very modest unit

that puts out a whopping 13 horsepower, that's roughly the same as a lawnmower, so it's a slow car.

It was also one of the very first purposely designed city cars. You can navigate very tight streets. It can park in very small parking spaces. It uses very little gasoline. It comes out at the same moment, in the 1950s, that in other places like in the United States, you have these gigantic gas-guzzling behemoths from Cadillac and Ford. And then in Italy you have this minuscule, magnificent, little masterpiece of a car.

Italy in the 1950s, was like many countries in Western Europe, still emerging from the chaos and destruction of World War II. When the 500 came out, Fiat was very specifically thinking of first-time car buyers. Fiat stripped everything unnecessary from the car, anything that would have added cost to the vehicle was removed. The one you're looking at doesn't even have a gas meter. It's got a canvas fabric roof because they were trying to save on steel.

So the car, while being very cheaply made, was not poorly made. And that's the amazing achievement of the Cinquecento is that if you look at the car body, it's got cute rounded corners, nothing is clumsy looking, everything is proportioned just so. On the inside, it looks very stripped down and very simple and that's partly to make as much interior volume as possible.

And so it was, in every way, designed to be the cheapest, most accessible car possible. And this was an exact fit for the market at that moment and remained in production for 18 years.

351. Margaret Calvert and Jock Kinneir, Primary-route road sign. Originally designed 1957–67

Hear the designer on making a signage system that has stood the test of time.

Margaret Calvert: My name's Margaret Calvert and I'm a graphic designer and typographer. I worked with Jock Kinneir on the UK road signs in the early ‘60s.
The whole system was designed from the point of view of the driver and very important obviously was the legibility. It was absolutely stripping it down to the bare essentials.

What you're seeing is a roundabout sign. It is white on green and the route numbers are in yellow. Place names all used to be in capitals. With upper and lower case lettering, from a distance, you read the shape of a word, whereas in capitals you have to read each individual letter form almost.

The triangle was always established as a warning sign, so it's a common graphic language. And then the red and the white would reflect when the headlights hit it. And then the actual roadwork man is not reflective. And that is a very striking and strong image to alert you to roadworks. You will find that particular sign all over Europe.

The school children crossing, I actually based that on myself at that age, which would have been about eight. It was very important, I thought, to change the original children crossing one to a girl leading a small boy, because I felt it made it more caring, as opposed to two of the same age.

Designing is about answering the right question. You never set out to design anything iconic, but you just simply put yourself into it. If it works for you, then hopefully it works for a larger audience.

352. Charles Sheeler, *American Landscape,* 1930

Hear how a factory in Michigan inspired artists.

Juliet Kinchin: The Ford Motor Company was established in 1907, and really transformed the automotive industry through the introduction of assembly line production, which was all about driving efficiency and boosting production capacity.

Ford's colossal River Rouge manufacturing complex in Dearborn, Michigan, was the largest integrated factory in the world. This mesmerized a generation of architects, artists, photographers, designers, who were looking to the complex as an example of the new technologies shaping the modern world.

Charles Sheeler spent six weeks photographing the complex, and those photographs provided a source of inspiration for this painting, *American Landscape*. Sheeler emphasizes the abstract structural and functional volumes. It is eerily silent, it lacks any sign of the human workers and the thundering noise of this huge manufacturing center.

353. Lilly Reich, Folding car seat of tubular steel, with rubber straps, 1930s and Anni Albers, Automobile Upholstery Material, 1933

Hear about the contribution of two women to the interiors of car design.

Juliet Kinchin: The burgeoning car culture and manufacturing of the early 20th century was dominated by men, but there were opportunities for women to make some headway into these male-dominated industries, particularly in relation to the interior finishing of cars, in which women were perceived to have an affinity.

Lilly Reich was well-established in the vanguard of German design. This drawing shows this folding car seat from above and from the sides and gives an indication of the ingenious mechanism for folding the chair to ease the access of passengers to the rear of the car. It's a technical working drawing and indicates the use of tubular steel, which was wonderfully light and strong, but also rubber straps for the suspension and comfort of the upholstered seat.

Lilly Reich's car seat could have been covered with the modern upholstery fabric designed by Anni Albers, another German designer associated with the Bauhaus textile workshop. Albers created textural weaves from a combination of different yarns, very hard-wearing yarns, like wiry horse hair, but mixed in with a bobbly chenille for extra comfort. And she also developed a very subtle, yet modern, palette that wouldn't easily show the dirt, another important consideration for a functional car seat upholstery.

354. Ferdinand Porsche, Volkswagen Type 1 Sedan, designed 1938 (this example 1959)

Hear about a popular car design that remained unchanged for decades.

Andrew Gardner: In 1934, the car designer Ferdinand Porsche was hired to design an affordable car for the masses, a people's car or "Volks Wagen." The Volkswagen Type 1 sedan has a distinctive bulbous shape that feels seductive but also cartoon-like. The curved form is influenced by aerodynamic studies and the rounded design also provided ample headroom for passenger and driver. It was designed to make efficient use of steel, so the strength is provided not by the frame, but by the body itself. The car featured a 25-horsepower rear-mounted engine. So, luggage storage was from the front of the car.

It was really only after World War II that production really took off. And by 1972, the car had become the most successful and most widely sold vehicle of all time, surpassing Ford's Model T.

The Type 1 Sedan was interchangeably called the "Beetle" and the "Bug" because it had this insect-like shape that felt both friendly and unfamiliar at the same time. The most amazing thing about this car is that it's design has basically never changed between 1938 and when the last Type 1 Sedan rolled off production lines in 2003.

355. Pininfarina (Battista "Pinin" Farina), Cisitalia 202 GT Car, 1946

Hear about the slow process of making this fast car.

Paul Galloway: The Cisitalia 202 is the result of a long history of automotive racing in Italy. The 202 was the first and only time Cisitalia actually made a car intended for the public. This is a very rare car, only about 170 of them were produced and only a handful of these survive.

As you approach the Cisitalia 202, many things will jump out at you—its incredible red color, its sinuous curvy shape. If you look at the body itself, you'll notice that it's almost one continuous skin. There's very few joints, very few lines between one panel and the next. And that's because the car employs something called a monocoque skin or unified skin. But the body is actually produced on top of ready-made chassis and engine that come from everyday production cars.

The 202 was produced one at a time in a shop. You would have a tradesman who would create the panels and the forms by hammering out a sheet of metal over a wooden form. And that's all the more remarkable when you think that this is one continuous piece of metal, that entire thing was sculpted as a form.

The big downside to this handmade construction is that it's extremely slow. A 202 took months to make. So they're very expensive to make and very expensive for somebody to buy. So, in economic terms, the 202 is a failure, because it wasn't successful enough to launch the company into regular passenger cars. But from a historical and aesthetic standpoint, it's an enormous success and one that is cited by designers even today as a great inspiration.

356. General Motors Corporation, "Oscar" design template, 1950s

What role did this “average human male” play in car design?

Hampton Wayt: My name is Hampton Wayt, I'm an industrial design historian.

Oscar is a male human template that was used by General Motors Corporation to design the interiors of automobiles in the 1950s. It was claimed that he was modeled after the average human male, although there doesn't seem to be any record of how General Motors determined what was considered average. One of the things I really love about Oscar is if you look at his head, you'll see that he's wearing a hat, which of course was commonplace for men in the 1950s. In fact, the automobile roofs at the time were specifically designed to allow men to enter the car without knocking their hat off, so they had to be a certain height.

Automobile design is a very rationalized process. Let's just imagine for a moment that we're designing a car from scratch. The process would begin with the designer receiving a basic engineering layout, so they would know what the chassis looked like, and the basic overall length of the car and the height of the car, perhaps. From there, the designers would create a diverse range of drawings in hopes of establishing the car's theme.

The interior is probably the most difficult part of designing an automobile because it actually does work with a lot of very strict factors: where the dashboard is, the relationship of the steering wheel to the front seats, getting the right angles. So Oscar was a very important part of that process of ergonomics, human factors engineering is what they would have called it. The exterior of the car may make you want to go buy the car, may bring you into the showroom, but the interior is the most important part ultimately, because that's where you're spending all your time. And if it's not comfortable, if it's too tight, it doesn't function right, the automobile cannot be successful.

357. Judy Chicago, *Flight Hood*, 1965–2011

Hear the artist on how the death of two loved ones inspired this work.

Judy Chicago: Hi, I'm Judy Chicago and I want to tell you about *Flight Hood*.

The imagery involves a nascent butterfly form, which is trying to emerge from the shadow of death symbolized by two crosses. And the upper part of the painting references two deaths. One, the unresolved death of my father when I was 13, which was something that was never discussed in our family. And then ten years later, the death of my first husband in an auto accident. And I was grappling with grief and the paintings helped me make sense of what I had experienced.

This work is based on a series of paintings that my painting instructors hated. I was prone to using ivories and turquoises and magentas, and they didn't like my colors and they didn't like my forms. And I ended up destroying them, but not before I had transferred the patterns to car hoods. I understood, intuitively, that this imagery that my male painting teachers had rejected because it was so female centered, that there was something subversive about mounting it on the most masculine of forms—a car hood.

The summer after I graduated from UCLA, I went to autobody school. I was the only woman among 250 men. And it was really a transformative experience because I learned this incredible reverence for craft.

The car hood was sprayed with lacquer on a primed and sanded surface, and then I coated it with layer after layer of clear. It was the visual and sumptuous nature of car culture that interested me. I was fascinated by the fusion of color and surface, which I think became a real hallmark of my work and it all traces back to my time at autobody school.

358. Airstream, Inc., Airstream Bambi Travel Trailer, 1960

Hear about the animal that inspired the name Bambi.

Andrew Gardner: In 1931, in Southern California, Wally Byam constructed the first Airstream prototype in his backyard, made from plywood and masonite, but when word got out that he was producing this incredible travel caravan, his neighbors wanted one as well. It proved so successful that he ended up having to move production into a factory in Culver City, California.

By 1935 in the United States, there were roughly 400 other travel trailer companies. By the end of World War II, his was the only company that remained and he capitalized on the newfound patriotic spirit by marketing his Airstreams to a newly emergent American middle-class consumer.

He took a caravan of Airstreams on a 13,000-mile, seven-month journey across the continent of Africa. In 1960, he introduced the Bambi, which is named after a miniature species of deer that is native to Angola.

It was clad in the same aluminum material used for airplane fuselage. The design of airplanes also informed the shape of the Airstream, so that they had this aerodynamic bullet shape. And the all-aluminum exterior lessened the need for heavy bracing, which meant that the interior could be packed with a lot of different features.

The Airstream travel trailers have been so successful that an estimated two thirds of all Airstreams ever produced since the 1930s remain in use or on the road. Because these vehicles achieve such cult status, they become these markers of American freedom, American progress. And they have this timeless design.

359. Robert Frank, *U.S. 90 En Route to Del Rio, Texas*. *The Americans*, 1955-56

Hear how these portraits of America were made on the road.

Lucy Gallun: There are so many pictures of Americans experiencing life through a vehicle.

I'm Lucy Gallun. I'm an Associate Curator in the Department of Photography at The Museum of Modern Art.

Robert Frank was a Swiss-born, Jewish photographer. And he moved to New York City when he was 22 years old, in 1947. He made a multi-part road trip across the United States,

which resulted in his epic project called *The Americans*, which in its book form included 83 pictures. It really was an outsider's view, this complex, layered portrait of the United States.

In New York City, Frank is introduced to the 35-millimeter Leica camera. If he's on the road, traveling to different cities, on the sidewalks, interacting with folks, he's got his handheld camera and can capture an image quickly, on the fly.

In 1955, Frank bought a used 1950 Ford Business Coupe before setting off on the first leg of the road trip. And this car appears in multiple images, including this picture called *U.S. 90 En Route to Del Rio, Texas*.

Windows appear again and again in images from *The Americans*. And they're often used to isolate individuals or groups from one another. Here, I feel like the windshield works in a different way. Frank did most of the road trip alone, but sometimes with his family. We can see Frank's wife Mary and she's huddled down in the front seat of the car with their young son. And so we get a sense of that personal experience, that everyday life with his family on the road.

360. Frank Lloyd Wright, *The Living City Project*, 1958

Hear about the ideas behind Wright's car-centric city design.

Juliet Kinchin: The architect Frank Lloyd Wright is one of the giants of American modern architecture and design. One can see his passion for cars and his very car-centric vision of both urban and rural areas developing over the decades.

This drawing of a very futuristic cityscape was made in 1958 and it really shows this dispersed urban landscape dominated by and connected by cars and roads. The idea was that every family would own at least one car and live on and cultivate an acre of land. All these homesteads would be distributed along a grid with small-scale manufacturing and community centers linked by roads. Motorized transport also would transform agriculture and link newly mobile consumers with fresh, locally sourced food in roadside markets. Each citizen would have all these forms of production, distribution, self-improvement within a car-borne radius of 150 miles from their individual homes. The idea was making mobilization by car a pleasure, not a nuisance.

Another interesting aspect of this design is the rather strange futuristic car in the foreground, part of a system of cars constantly circulating around the city and transporting passengers, very much like the way we're thinking now of robot-driven cars and transportation around the urban landscape.

361. SITE/James Wines, *Ghost Parking Lot*, National Shopping Centers Parking Lot, Hamden, CT, 1977

Hear what inspired Wines to transform a shopping center parking lot.

James Wines: I like to put art where you least expect to find it.

My name is James Wines and I'm the founder and president of an architecture and environmental arts organization called SITE.

Among our first projects, we created a field of buried automobiles under asphalt called the *Ghost Parking Lot*. It was a collector of my work, who was a shopping center owner. He had this particular parking lot in Hamden, Connecticut. There was a space at the front of the property where nobody went and nobody parked because it's too far from the actual stores. It seemed blank and ugly, as all asphalt parking lots are. I thought of this idea of what if we could park cars there, just park a row of cars and then cover them with asphalt.

There was the problem of fossil fuel consumption. So I thought it would be interesting since automobiles consume petroleum, putting asphalt, which is a petroleum product, over cars—in a sense, the petroleum consumes the car.

We had no idea how we were going to adhere asphalt to metal, how we're going to cover the cars, how we are going to bury them. We consulted this construction company and worked together on it, in a kind of collaborative way, and the rest is history.

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