





**4 Play**  
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**Pratt Institute Semester 008**

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## **On Contradiction and Comfort**



As a designer, I've always been drawn to contradiction—objects that defy expectations while remaining grounded in functionality. 4 Play began as an exploration of this tension: could a flat-packed chair feel sculptural, sensual, and permanent rather than generic, flimsy, or disposable? Having grown up assembling IKEA furniture and watching it degrade over time, I set out to challenge the stereotype of flat-pack as temporary. My goal was to design something resolved and emotionally resonant—without sacrificing the accessibility and convenience of ecommerce distribution.

This project became a platform for merging technical fabrication with cultural storytelling through the frame of a chair. My central research question asked: How can a flat-pack chair use sensuality, structural tension, and material clarity to reframe the experience of everyday seating?

To investigate this, I turned to two distinct but parallel lineages: mid-century tubular steel furniture and 17th–19th century corsetry. These systems share an investment in sculpting form and shaping the body through structured tension, yet are rarely studied together. Drawing from Bauhaus-era steel furniture, the modular innovations of Charles and Ray Eames, and historical corset construction techniques, I explored how principles of restraint, exposure, and precision could be reimagined in a domestic object.









## **Users and Desires**



My user research focused on young adults living in compact, often temporary spaces—individuals who value aesthetics, practicality, and emotional resonance equally. I began by sketching with wire, exploring the language of curves and containment. These early gestures led to formal studies in hand-bent steel tubing, eventually developing into mirrored side frames joined by tensioned slings. The breakthrough came when I reimagined the sling not just as a seating surface, but as a laced structure—akin to a corset—creating both literal and metaphorical tension.

Throughout the process, I conducted material tests, first-person interviews, and precedent research through journals, museum archives, and physical prototyping. Gender, in this context, is treated not as a fixed identity but as a set of visual and tactile codes—implied through form, material, and historical reference. The result is 4 Play, a sculptural dining chair that assembles without tools but feels intimate, precise, and permanent.

I was ultimately motivated by the interplay between structure and softness, utility and desire. The flat-pack market is crowded with efficient but emotionally neutral objects. I wanted to prove that such designs can also be tactile, expressive, and coded with meaning. 4 Play is both a functional chair and a quiet provocation—merging industrial logic with bodily metaphor to create an object of comfort, tension, and affect.

Flat-pack furniture is typically associated with affordability, efficiency, and mass accessibility—but rarely with emotional or aesthetic richness. Brands like IKEA and Muji have defined the category through modular, minimal designs that prioritize cost and shipping logistics over personality or long-term presence. In contrast, 4 Play aims to disrupt this typology by infusing flat-pack design with sensuality, sculptural intention, and cultural resonance.





I was particularly drawn to mid-century precedents such as Marcel Breuer's steel tube furniture and the Eames' molded wire chairs. These designs emphasized formal clarity, material honesty, and mass-production potential. Yet where they often embraced a restrained modernist language, 4 Play leans into expressive curvature, bodily metaphor, and playful contradiction—challenging the assumption that utility must come at the expense of intimacy or affect.

Equally important to the conceptual framework was the historical corset. As both a structural and symbolic object, the corset provided a rich lens through which to examine themes of support, tension, and embodied aesthetics. Through research in fashion history texts and museum garment archives, I studied how corsets used lacing and compression to sculpt the body—paralleling the way tightly stretched slings in 4 Play maintain the chair's form. The decision to lace the backrest like a corset is not only functional—it physically holds the chair in tension—but also metaphorical, invoking ideas of containment, exposure, and desire.

By bringing together these two structurally related yet culturally distinct lineages—industrial furniture and corsetry—I sought to reimagine flat-pack furniture as a site of intimacy and expression, rather than sterility or disposability.

4 Play proposes that utility and sensuality are not in conflict but in conversation, and that domestic objects can carry affective charge without sacrificing practicality. This project builds upon modernist ideals of modularity and economy while expanding their possibilities. It asks not just how we design or assemble furniture—but how we feel about the objects we live with, and what meanings they carry in the quiet rituals of everyday life.



## **Function with Feeling**



Before developing 4 Play, I explored a series of alternative chair typologies that sharpened my thinking around structure and fast iteration under constraint. These included a cardboard chair—which challenged me to distribute weight using fragile materials—and a tension-based sling chair, which became an early exploration of flexible support systems. I also studied collapsible and interlocking mechanisms, inspired not only by furniture but by external systems like pop-up tents, scaffolding, and mechanical linkages. These references helped me imagine non-traditional assembly strategies and tool-free construction methods.

My formal exploration began with armature wire, allowing me to sketch and iterate quickly in three dimensions. This intuitive phase yielded dozens of small-scale studies, through which I refined a language of low, grounded proportions and soft, intentional curves. From the outset, I wanted to avoid boxy, planar forms often associated with flat-pack furniture. Tubular steel emerged as my primary material—not only for its sculptural flexibility and strength-to-weight ratio, but also for its underutilized presence in contemporary flat-pack design.

I scaled up using 1:1 drawings and tested a range of steel tubing sizes—1",  $\frac{7}{8}$ ",  $\frac{3}{4}$ ", and  $\frac{1}{2}$ " in both 14 and 16 gauge—to balance structural performance with visual lightness. Without access to CNC bending, I used a Hossfeld bender to manually shape each curve, fabricating mirrored halves before welding them together with crossbars. For added strength and continuity, I nested smaller tubes inside larger ones and plug welded them into place. Each weld was ground, sanded, and sealed with a warm satin polyurethane finish, creating a smooth, continuous frame that resisted corrosion while remaining tactile and inviting.

The slings presented the project's most complex and conceptually rich challenge. Initially, both the seat and back slings were designed to slide onto the frame before final assembly. While this worked mechanically, it made the build awkward and visually unresolved. The breakthrough came with the backrest: inspired by historical corsetry, I reimagined it as a lace-up textile element. Using grommets, the sling could be cinched after assembly—literally and metaphorically introducing tension, support, and intimacy. This detail became a structural anchor and a conceptual hinge, drawing the project deeper into its themes of containment, exposure, and sensuality.

With each iteration, the chair's identity became clearer. I aimed for visual lightness, mechanical cleverness, and subtle references to the body. Final refinements included color-coded pegs for easy assembly, clarified instructions based on structured user testing, and ergonomic testing that confirmed the chair's comfort and durability under a 275 lb load. The final prototype assembles in under 10 minutes without tools, but feels permanent.



## Step 1:

Take everything out of the packaging and lay the parts on the floor.



## Step 2:

Match the colored ends (purple + pink) of the crossbar to the frame and insert them.



## Step 3:

Slide the larger fabric sling onto the frame from the bottom, moving it up into the seat position.



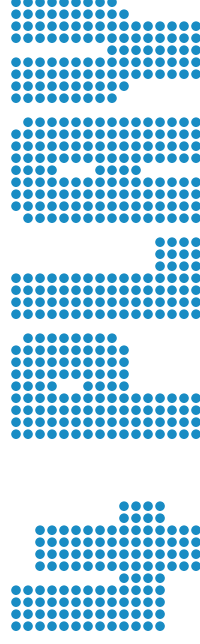
## Step 4:

Match the colored ends (green + blue) of the crossbar to the bottom of the assembled frame.



## Step 5:

Wrap the smaller sling around the top and secure as the backrest.



## Assembly Instructions

- |                   |                  |
|-------------------|------------------|
| 2 steel frames    | 1 seat sling     |
| 2 steel crossbars | 1 backrest sling |



## **From Wire to Weld**





CAUTION  
EYE  
PROTECTION  
REQUIRED

LAST  
2000  
600

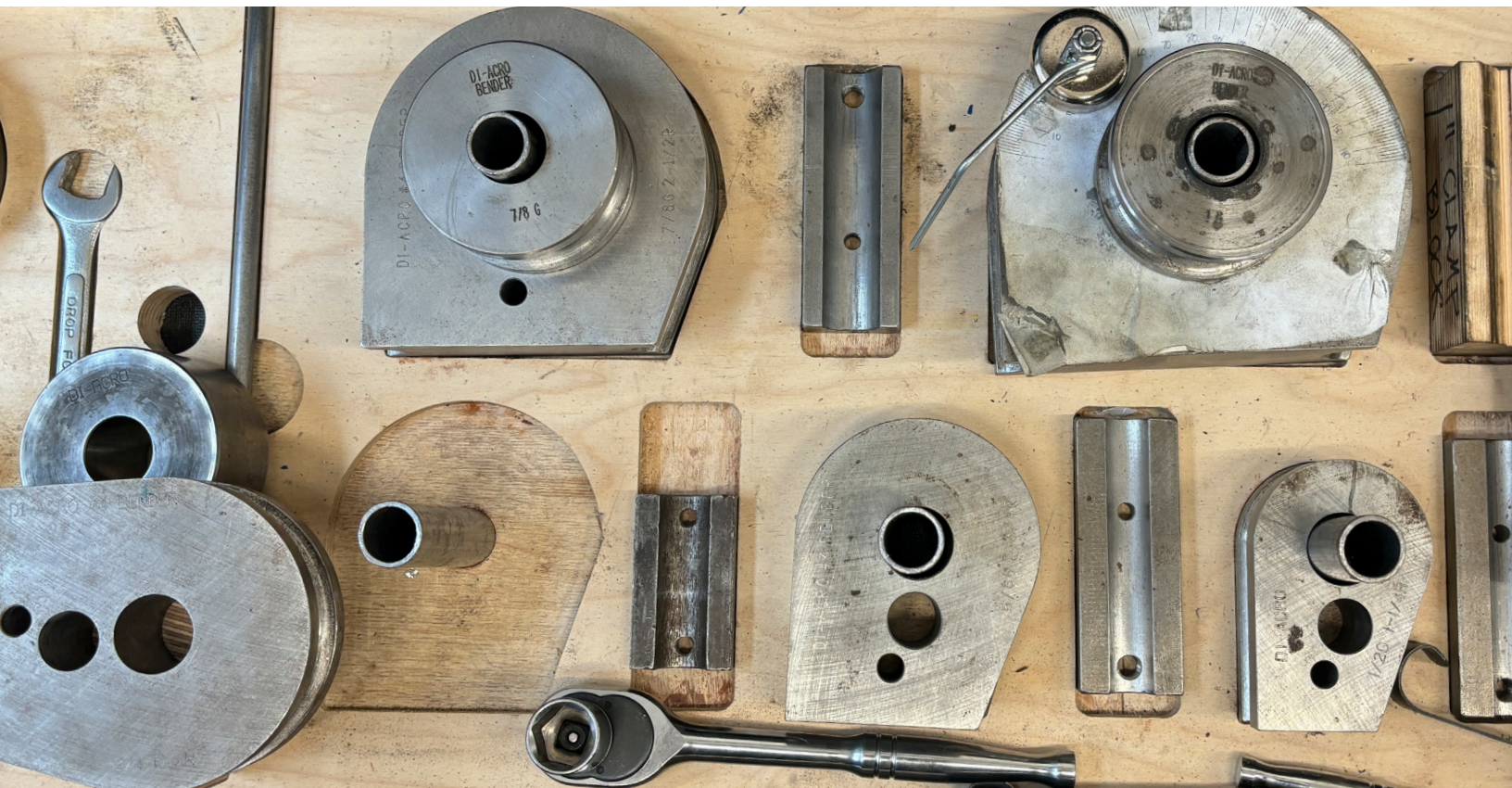


Through this process, 4 Play emerged as a synthesis of technical experimentation and cultural storytelling: a chair that conceals its flat-pack nature beneath coded elegance, and invites users to engage both physically and emotionally with the act of sitting.

Through the development of 4 Play, I discovered that flat-pack furniture can move beyond convenience and efficiency to offer emotional and conceptual depth. The project challenges the common perception that tool-free assembly necessitates aesthetic compromise. By using structural tension not only as a practical mechanism but as a metaphor—echoing the logic of a corset—I was able to create a design that is both formally rigorous and sensually suggestive. The most valuable insight was that minimal materials and processes can still evoke complexity when handled with care and intention. 4 Play is not just a seating object; it's a coded narrative about the body, design history, and desire.

If the project were to continue, the next phase would focus on testing the chair in real-world contexts—domestic and public—evaluating long-term comfort, durability, and assembly ease outside the studio. I would also investigate alternative sling materials, such as recycled or bio-based textiles, to further align the project with sustainable design practices. An additional opportunity lies in refining the corset-inspired lacing system for greater adjustability while maintaining structural tension.

The limitations of this research lie in its scale: a single prototype developed under studio conditions has not yet been evaluated through mass production or broad user testing. However, the project offers a framework for how flat-pack furniture might integrate sensuality, cultural reference, and performance without sacrificing functionality or clarity. It suggests that a chair can do more than support the body—it can speak to it.



The flat-pack revolution, driven by brands like IKEA, reshaped home furnishing in the late 20th century. But its ideological roots stretch further back, to projects like Enzo Mari's Autoprogettazione (1974), which advocated for democratic, self-built design. Later, Jasper Morrison and Naoto Fukasawa's "Super Normal" philosophy proposed objects that disappear into everyday life while excelling in function. These ideas informed my own approach: to create something accessible and efficient, but also formally ambitious and emotionally resonant. 4 Play builds on this lineage by introducing sensuality and coded storytelling into a format typically associated with neutrality.

With over 20% of furniture sales now happening online—and a growing population of young, mobile users seeking affordable, flexible furnishings—flat-pack remains deeply relevant. Visual research into dominant aesthetic trends like Japandi, Soft Brutalism, and Minimalism revealed a shared appreciation for tactility, simplicity, and lightness. These sensibilities shaped my material choices: exposed tubular steel, sculpted foam padding, and textured navy pinstripe fabric—recognizable yet unexpected.

While the chair carries my personal design language, I wanted it to feel broadly accessible. I conducted clustering analysis of interior imagery and mood boards using platforms like Milanote, identifying recurring visual motifs. This led to a reduction in ornamentation and a focus on bold, neutral materials with emotional resonance.

Ergonomic considerations were grounded in anthropometric data from Henry Dreyfuss' Measure of Man and the DINED database, ensuring the seat height, depth, and back angle accommodated the 5th–95th percentile of users. The slings subtly shift under load, offering dynamic comfort and aligning with modern ergonomic thinking.

Inspired by sustainable brands like Floyd and Hem, I prioritized glue-free joinery, recyclable materials, and minimal fasteners. The final chair is composed of bent steel tubing, plug-welded crossbars, and two padded slings, assembled entirely without tools and shipped flat in a compact box. A satin polyurethane finish protects the steel while reducing reliance on single-use coatings. This design approach responds directly to EPA data identifying furniture as a major contributor to landfill waste—positioning 4 Play as a small but thoughtful intervention in a much larger ecological conversation.





# **A Typology Reimagined**

The process of designing 4 Play revealed how meaningful innovation can emerge through constraint—material, economic, and conceptual. Without access to CNC machinery or high-budget prototyping, I was forced to think critically about every bend, weld, and stitch. These limitations didn't narrow the project—they sharpened it. Each decision had to serve multiple roles: functional, aesthetic, symbolic. I discovered that flat-pack design, so often reduced to convenience and cost-efficiency, doesn't have to mean aesthetic or emotional compromise. Instead, it can be an opportunity to rethink how furniture is built, assembled, and experienced.

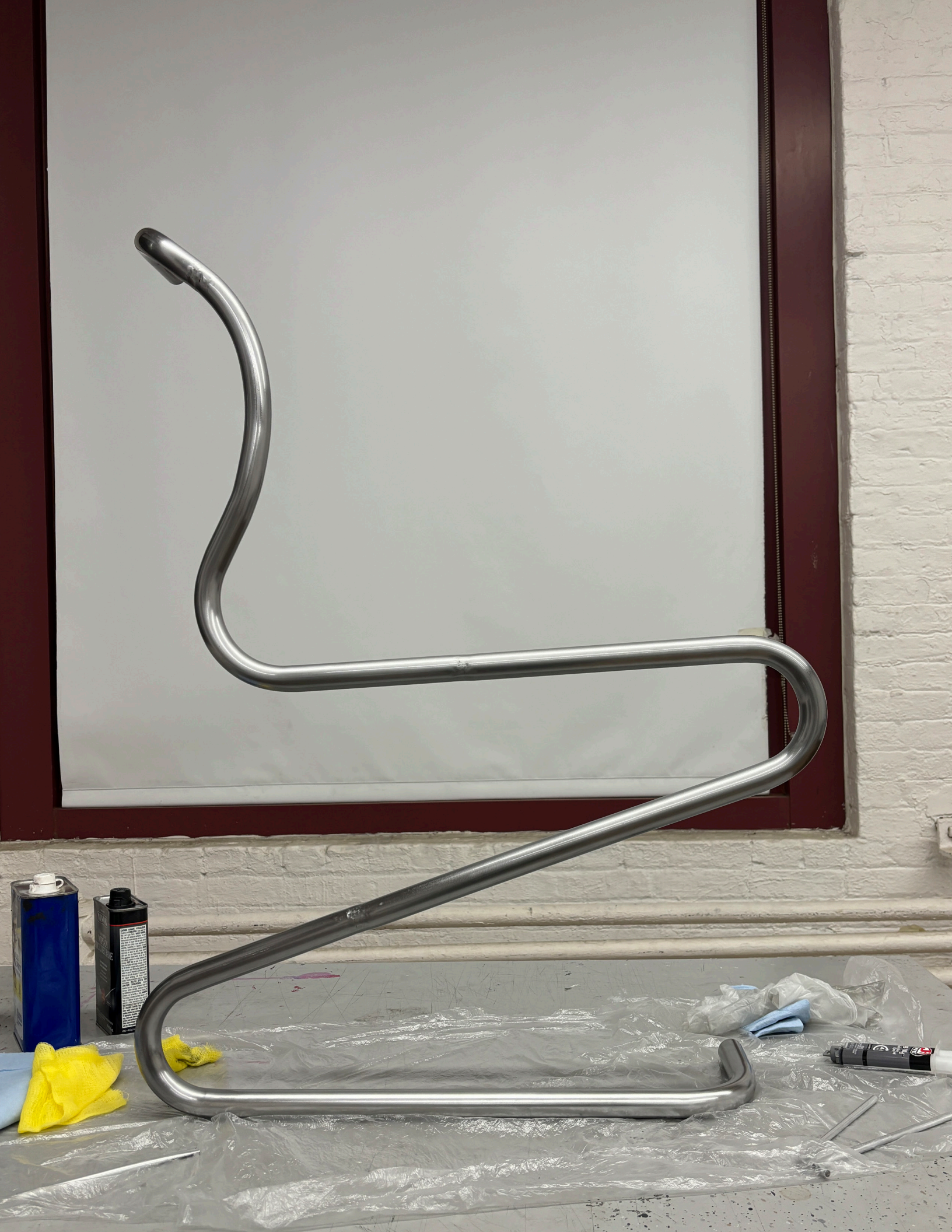
By drawing from an eclectic set of references—fashion history, industrial design, and ergonomic science—I created a chair that feels unexpected but deeply familiar. The inspiration from corsetry provided both a structural logic and a conceptual framework. Just as corsets shaped and supported the body while signaling social codes, the laced sling of 4 Play does more than hold tension—it hints at containment, exposure, intimacy, and performance. Meanwhile, references to mid-century steel tube furniture brought a language of clarity and honesty to the frame, while the physical act of hand-bending and welding the structure brought me closer to the material in ways digital processes often obscure.

Looking ahead, I see multiple directions for the project's evolution. First, I would broaden user testing across a range of domestic and public settings to evaluate long-term comfort, assembly, and durability in everyday environments. While studio feedback was invaluable, real-world contexts can expose issues of wear, usability, and perception that aren't always apparent in controlled settings. I'm also eager to explore alternative sling materials—especially recycled, bio-based, or circular textiles that align with sustainability goals while offering new tactile and visual experiences. These materials could add layers of meaning to the chair while reducing its ecological footprint.

From a fabrication perspective, I would investigate CNC tube bending and precision welding to streamline the production process while maintaining the sculptural integrity of the form. While the original chair was handcrafted to emphasize material presence and intentional imperfection, scalable methods could open the project to limited or mass production without diluting its identity. I'm also interested in rethinking the corset lacing mechanism to improve adjustability and accessibility—perhaps incorporating quick-tension systems or modular grommet patterns that allow users to customize tightness, position, or even appearance.

Ultimately, 4 Play is more than a chair—it's a meditation on how structure, intimacy, and narrative can converge through furniture. It challenges binary categories: rigid vs. soft, functional vs. decorative, industrial vs. sensual. It invites users to not just sit, but to consider. To run their fingers along the frame, to notice the tension in the slings, to assemble it with a sense of ritual rather than obligation. In bridging the DIY ethos of flat-pack with the emotional ambition of high design, 4 Play proposes that utility and poetry are not opposites—they're partners. And in doing so, it gestures toward a new way of thinking about how we inhabit, relate to, and even desire the objects in our homes.





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