

The Rational Dress Society presents:

# A Brief History of Spacesuits

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An informational pamphlet for MOCAM,  
The Museum of Contemporary Art on the Moon



## Wiley Post's Pressure Suit

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In 1934, Wiley Post wore the first American-made pressure suit during several high altitude flights into the stratosphere. In 1935, Post's suit made an appearance in the science fiction film *Air Hawks*, cementing its place in the public imaginary.<sup>4</sup> Roland Barthes, writing in 1957, would describe the mythological appearance of the “jet-man,” embodied by Post, as a “racial apartness,” signaled by “the anti-G suit of inflatable nylon, the shiny helmet...” This new “celestial race” is disembodied and depersonalized. Face obscured by shiny metal, the jet-man represents a utopian future, defined by “continence and temperance, abstention and withdrawal from pleasures, community life, uniform clothing...”<sup>5</sup>

## Tomato Worm Suit

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Early pressure suits were inflated with compressed air, necessary to counteract the low pressure conditions of the upper atmosphere. The inflated body of the suit presented a problem for aviators, severely constricting their movements. In 1943, Russell Colley, an engineer who had worked with Wiley Post, developed a prototype for a full-body pressure suit that might allow for greater mobility. While working in his garden, Colley observed the plump, segmented body of the tomato worm, and its physiology became the basis of a design. Published in a photo spread for the Los Angeles Times in 1948, the Tomato Worm Suit would influence the depiction of astronauts in popular media, its distinctive segmented limbs appearing in cartoons like Hergé's “Destination Moon” of 1950.<sup>6</sup>



*Wiley Post's Pressure Suit, 1934*

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*Tomato Worm Suit, 1943*

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## Russian SK-1

In 1961, Russian cosmonaut Yuri Gagarin was the first human in space. Soviet spacesuit design differed from the American designs of the 1950s in their preference for simple, physically robust suits over high tech optimization. The SK-1 was sewn from individual pattern pieces of latex-soaked canvas, as opposed to the molded neoprene of US designs. The suit leaked oxygen, which was compensated for by continuously refilling it with air while in use. The helmet was not a separable element, but rather an outer shell that surrounded the interior fabric bladder, sidestepping the complexity of designing an airtight helmet joint.<sup>7</sup>

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## Mercury Spacesuit

In 1961, shortly after Yuri Gagarin's orbital spaceflight, Alan Shepard became the first American astronaut to be launched into suborbital space as part of Project Mercury. Mercury spacesuits were made from a knit performance nylon, which provided extra mobility for the wearer through its ability to expand when inflated and contract when depressurized. But the Mercury spacesuit is best known for its iconic silver exterior, complete with matching boots. The official rationale for the aluminum coating was that it would provide astronauts with additional heat resistance. In reality, the silver was primarily an aesthetic decision, designed to make the Mercury astronauts appear more photogenic.<sup>8</sup>



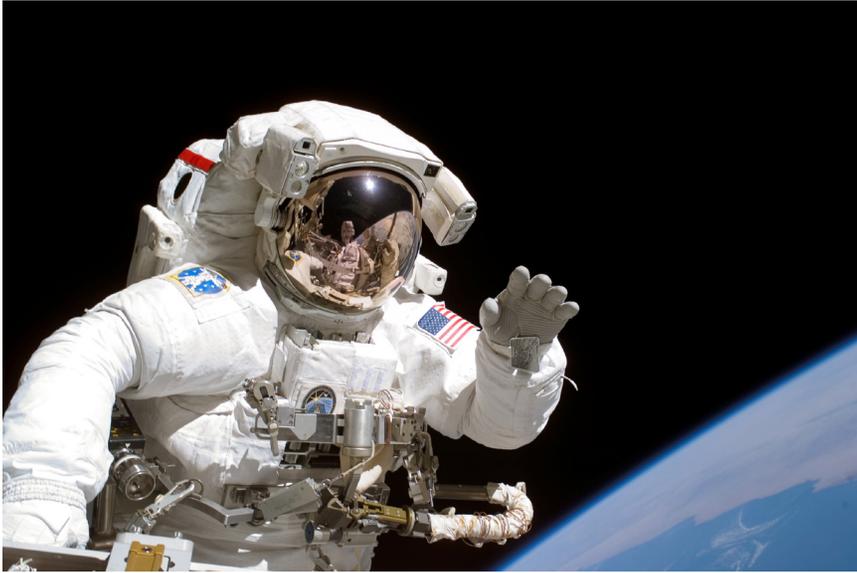
*SK-1, 1961*

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*Mercury Spacesuit, 1961*

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*Apollo Spacesuit, 1968-75*

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## Apollo Spacesuit

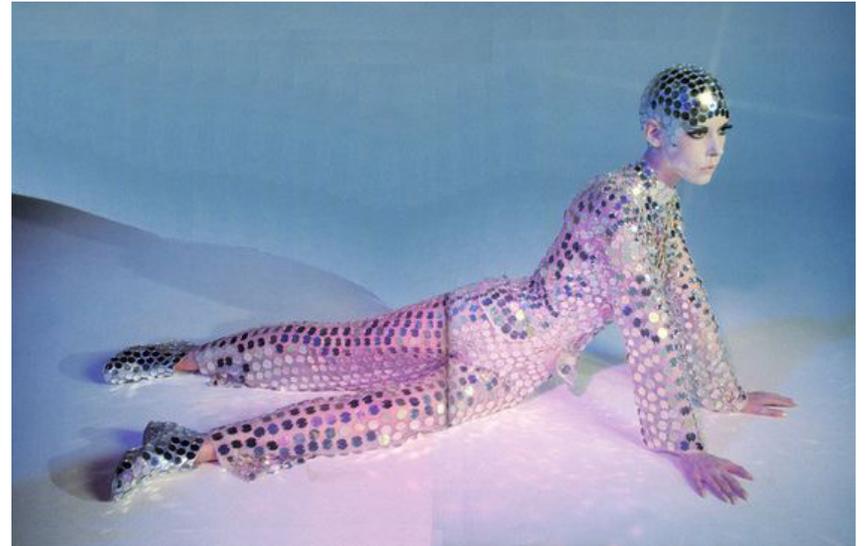
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Apollo spacesuits, used during moonwalks between 1968 and 1975, are the most recognizable pressure suit design. The Apollo spacesuits had to meet a complex set of criteria; the garment needed to be durable enough to navigate the moon's surface, while remaining sufficiently flexible to allow astronauts to bend down and collect rocks. The design included a fishbowl helmet that afforded a wide field of view, and a cooling system that circulated water throughout the spacesuit, preventing it from fogging up.<sup>9</sup> The Apollo spacesuit was designed by the Playtex Corporation, known for innovations in women's underwear and shape wear in the 1950s and 60s. Playtex won the commission despite major philosophical disagreements with the government's leading military contractor. Ultimately, Playtex's soft design, comprised of 21 individual layers of fabric, won out, proving to be far more flexible and durable than the "hard suits" proposed by military experts.<sup>10</sup>

## Cyborgs

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In 1960, doctors Manfred Clynes and Nathan S. Kline delivered a paper titled, "Drugs, Space and Cybernetics," to a conference on the subject of manned spaceflight. In the paper, they coined the word "cyborg" to describe the hybridity of man and machine that the spacesuit engendered.<sup>11</sup> For Clynes and Kline, the cyborg represented the potential to mechanically, chemically or electronically augment the human body so that it could function in a variety of otherwise hostile environments. They were particularly interested in the use of psycho pharmaceuticals to control and release sexual urges, as might be required on a barren moonscape or an interstellar journey.<sup>12</sup> The cyborg, born from the image of the spaceman, represents a vision of mankind freed from the tyranny of bodily functions. This is a post-gender body liberated from all physical limitations, including reproduction and digestion. This cyborgian ethos would make its way into experimental fashion design of the 1960s, culminating in the space age garments of André Courrèges, Pierre Cardin and Rudi Gernreich.



*Rudi Gernreich, 1960s*

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*Cyborgs in Life Magazine, 1960*



*André Courrèges, 1964*

## André Courrèges

In the mid 1960s, André Courrèges designed a collection of garments inspired by the aesthetic sensibility and idealism of the space race. His utopian, feminist designs envisioned simplified, sleek clothes that were both futuristic and comfortable (Courrèges favored flat shoes and flexible fabrics for women.) Courrèges, who was invited to NASA in the 1960s, incorporated synthetic materials like vinyl and Lycra into his women's wear. He designed a number of unitards and jumpsuits that were directly informed by the spacesuit, frequently with geometric cutouts, capes and hoods that suggested the bubble helmets of the astronauts.<sup>13</sup>



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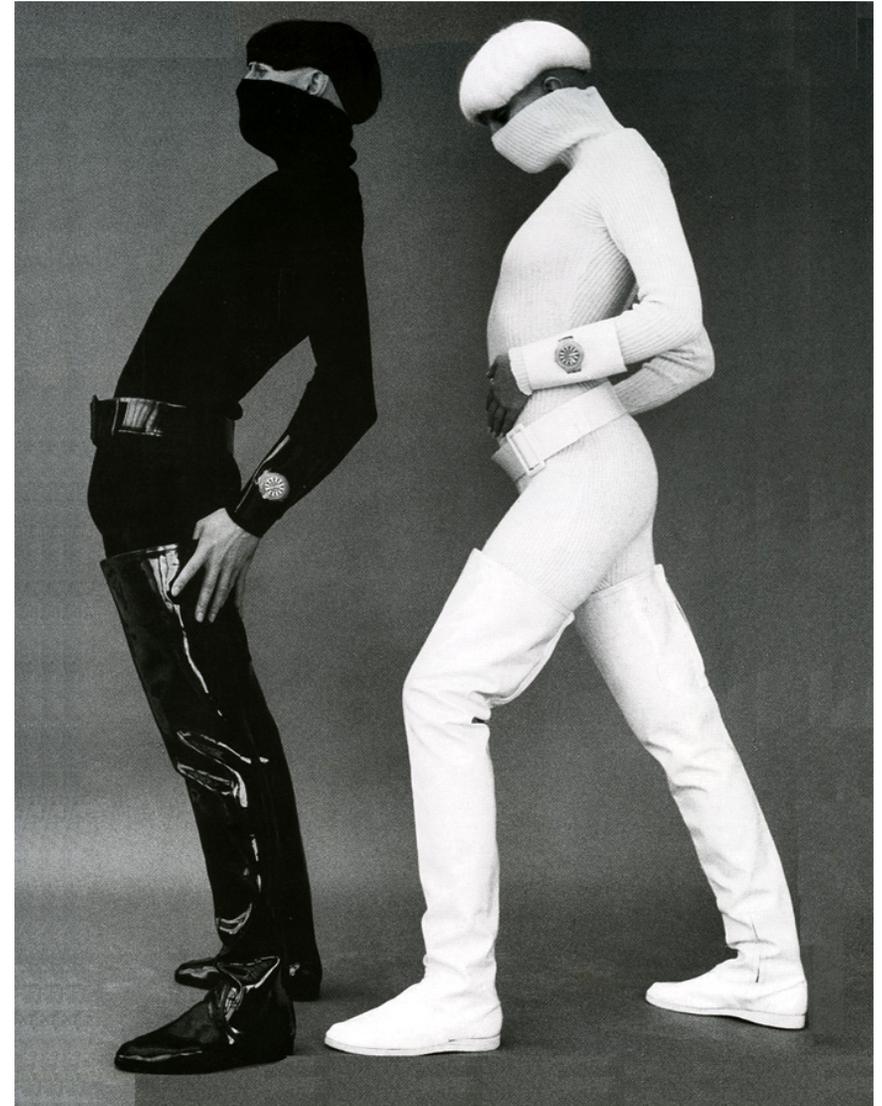
*Pierre Cardin, 1969*

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## Cosmocorps

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In 1969, Pierre Cardin presented his *Cosmocorps* collection, a series of space-aged designs that incorporated heavy metal zippers and circular motifs in reference to satellite technology and military insignia. Cardin's designs favored structured materials that stood free from the body, floating in a "zero-gravity" effect. His *Cosmocorps* garments took the form of futuristic uniforms for everyday wear.<sup>14</sup> In space age fashion design, the jumpsuit occupied a central role, embodying an ethos of economy and efficiency, even as its actual efficiency was up for debate (see: bathroom trouble.)<sup>15</sup>



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*Rudi Gernreich, 1970*

# Rudi Gernreich

Experimental feminist designer Rudi Gernreich, inventor of the monokini, the first topless bathing suit, designed a number of space age garments in the 1960s and 1970s that took up the language of the jumpsuit. Gernreich's designs predicted a future in which utility would prevail, and the differences between men and women minimized. He designed a series of knit, unisex jumpsuits that hugged the body, mimicking and further reducing the sleek lines of flight suits.<sup>16</sup>



## The 1970s

By the 1970s, the experimental space age designs of the 1960s had made their way into department stores and shopping malls. The feminist movement brought with it a widespread interest in gender-neutral and unisex clothing, and the experiments of the 60s were adapted for mainstream consumption. Over the course of the decade, the jumpsuit became a staple, its popularity further reinforced by its association with disco. Retailers advertised the jumpsuit as a garment for the whole family, depicting smiling men and women in matching polyester outfits. After its heyday in the 70s, the popularity of the jumpsuit waned. Although the garment continued to be worn by women, men largely abandoned the jumpsuit as everyday wear. The days of the leisure one-piece were over.<sup>17</sup>



Jumpsuits . . . Fashion's Great New Look, in Casual Styles Too Smart to Just Stay at Home

- E** SLEEK-FITTING STRETCH-KNIT TERRY JUMPSUIT. Soft 100% cotton. Shirt-style collar. 2 hip pockets, 1 chest pocket. Self belt with metal ring buckles. Half-elastic waist. Zip front. Short sleeves. Machine wash warm, tumble dry. Mailing weight 1.10 lbs. Colors: 49 rust; 35 blue. State color number-and-name. His, Regular Sizes: see Chart on page 64. State S, M, L, or XL. X 506-3565 D. . . . . 30.00 Hers, Sizes: see Chart on page 64. State S, M, or L. X 506-3573 D. . . . . 30.00
- F** LUXURIOUS VELOUR JUMPSUIT blended of 80% Arnel® triacetate\* and 20% nylon. Shirt-style collar. 2 hip pockets, 1 chest pocket. Self-belt sash. Half-elastic waist. Zip front. Short sleeves. Machine wash warm, tumble dry. Mailing weight 1.10 lbs. Colors: 57 navy blue; 56 camel. State color number-and-name. His, Regular Sizes: see Chart on page 64. State S, M, L, or XL. X 506-3581 D. . . . . 28.00 Hers, Sizes: see Chart on page 64. State S, M, or L. X 506-3599 D. . . . . 28.00
- G** HIS 'N' HERS VELOUR SCUFFS. Criss-cross vamps. Plus 80% Arnel® triacetate and 20% nylon velour uppers, cushioned insoles, black bindings. Nylon tricot linings. Composition crepe rubber outsoles, heels. Mail. wt. 0.80 lb. His, D (medium) width. Sizes: 7, 8, 9, 10, 11, 12. State whole size only. If you wear a half size, order next larger whole size. X 600-0467 B—Burgundy X 600-0475 B—Blue X 600-0483 B—Camel . . . . . Pair 4.97 Hers, B (medium) width. Sizes: 5, 6, 7, 8, 9, 10. State whole size only. If you wear a half size, order next larger whole size. X 600-0491 B—Burgundy X 600-0509 B—Blue X 600-0517 B—Camel . . . . . Pair 4.97
- \*Arnel® Triacetate is a Trademark of Celanese Corp. JCPenney 65

*Jumpsuits advertised for JCPenney, 1970s*

## Notes

1. Cassandra Gero, "Jumpsuit: A History of the Future of Fashion." MA dissertation, Fashion Institute of Technology, 2006. Proquest/UMI, Ann Arbor 2015. 3.
2. Nicholas de Monchaux, *Spacesuit: Fashioning Apollo*. MIT Press, Cambridge, 2011, 61
3. Adam Mann, "The Evolution of the Spacesuit." Wired Magazine (online) 10.24.2011. Accessed 1.30.2016. <https://www.wired.com/2011/10/spacesuit-evolution/>
4. de Monchaux, *Spacesuit: Fashioning Apollo*, 57.
5. Roland Barthes, *Mythologies*. Hill and Wang, New York, 1972, 72.
6. de Monchaux, *Spacesuit: Fashioning Apollo*, 91.
7. Ibid., 111.
8. Ibid., 94-95.
9. Mann, "The Evolution of the Spacesuit."
10. de Monchaux, *Spacesuit: Fashioning Apollo*, 3.
11. Ibid., 68.
12. Ibid., 75.
13. Gero, "Jumpsuit: A History of the Future of Fashion," 21.
14. Jane Pavitt, *Fear and Fashion in the Cold War*. V&A Publishing, London, 2008, 58.
15. Gero, "Jumpsuit: A History of the Future of Fashion," 27.
16. Ibid., 22.
17. Ibid., 40.

# About JUMPSUIT

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We, the members of the Rational Dress Society, propose JUMPSUIT: an ungendered, open source monogarment for everyday wear.

We suggest that the rejection of choice (otherwise defined as the yoke of relentless consumption within the capitalist paradigm) might open us up to new possibilities and better ways of living.

What if you never had to pick out an outfit again?

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## CONCEPTUAL PARAMETERS

Rooted in the visual language of denim and the history of work wear, JUMPSUIT imagines the possibility of an egalitarian garment, liberated from the signs of class, race and gender that inscribe our usual relation to clothes. What if you never had to pick out an outfit again?

JUMPSUIT is disseminated in two forms, as a premade garment for purchase and an open source pattern, available to download free of charge. Profits from JUMPSUIT will go into a fund to purchase a full page ad in American Vogue. The publication of the ad will mark the end of JUMPSUIT.

To read more about JUMPSUIT, or the Rational Dress Society, please visit our website: [www.jumpsu.it](http://www.jumpsu.it)

# What if you never had to pick out an outfit again?

*Our mutual value is, for us, the value of our mutual JUMPSUITS.*

*The philosophers have only interpreted the world; the point is to change it with JUMPSUITS.*

*I may hunt in the morning, fish in the afternoon, and criticize after dinner, all while wearing JUMPSUITS.*

- Karl Marx

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[WWW.JUMPSU.IT](http://WWW.JUMPSU.IT)