

Article

Word, Image, and (Re)Production in Francis Picabia's Mechanically Inspired Abstractions

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Abstract: Francis Picabia's *Bobinage* (*Bobbin*, *Winding* or *Coil*) is a pencil and ink work produced on gouache-painted paper between 1921–1922. The free-floating forms in this piece appear, at first glance, to be studies in geometric abstraction. Yet, they, and the work's title, make both semiotic and real-world references. The admixture of perspectives is notable, for it retains traces of the Cubist visual language that motivated Picabia and his peers as well as the imagery of the early twentieth-century technical diagrams that, as has been demonstrated by scholars, inspired his work. Examining *Coil* and other of Picabia's artworks in tandem with the scholarship that has investigated these influences, this article explores the artist's engagement with the very issue of representation. Through this investigation, this paper considers the ways in which Picabia's work alludes to gender in a manner that privileges masculinity yet calls attention to the destabilizing effects of modernity—and modern representations—on notions about gender and, even, what it means to be human. Contextualized thusly, *Coil* represents not an abstract divergence but rather a continuation of the artist's technical, gender, and, one could say, even cyborg investigations, revealing his engagement with new and innovative ways of perceiving, conceiving, and depicting modern experience.

Keywords: Picabia; Duchamp; Dada; Mechanomorphs; Modernism; Cubism; semiotics; abstraction; gender; cyborg



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1. Mechanical Signs and the Technological Sublime

Francis Picabia created *Bobinage* (translated in English as *Bobbin*, *Winding*, or *Coil*), a pencil and ink rendering on gouache-painted paper mounted to cardboard (Figure 1) between the years 1921–1922.¹ For reasons that will become clear, this discussion will use the English translation *Coil* to discuss this mixed media art. At first glance, this drawing/painting appears to be a study in geometric abstraction. Yet, the work's forms and title make both semiotic and real-world references, using the languages of art and technology to celebrate man and machine. The formerly standard historical term “man” is used here briefly, since Picabia engaged with the language of early twentieth-century industrial drawing shown by scholar Molly Nesbit (1991, p. 353) to privilege masculinity above all.² As a man who was emphatically of his time, Picabia did not forgo the celebration of masculine power and dominance via the command of newly invented technologies. Even so, his combined enthusiasm, cynicism, and Dadaesque humor reveals a sophisticated grasp of the shifting dynamics at play (and at odds) in the realms of human ingenuity, understandings about gender, and experimental abstraction. Contextualized within the body of Picabia's mechanically inspired art, *Coil* represents not an abstract divergence but rather a continuation of the artist's technical, gender, and, one could say, even cyborg investigations, revealing his engagement with new and innovative ways of perceiving, conceiving, and depicting modern life.³



Figure 1. Francis Picabia, *Coil* (Fr. *Bobinage*, also referred to as *Bobbin* or *Winding*), 1921–1922, gouache and pencil on paper mounted to cardboard, 76.5 × 56.9 cm. © 2023 Artists Rights Society (ARS), New York/ADAGP, Paris. Digital Image © Museum of Modern Art/Licensed by SCALA/Art Resource, New York. Aichi Prefectural Museum of Art. http://jmapps.ne.jp/apmoa2/det.html?data_id=4176, accessed on 31 July 2023.

It is well known among Picabia scholars and, indeed, generally, among scholars of early twentieth-century art history, that this artist deployed imagery from the technical side of visual culture in his art. Yet, analyzing a work such as *Coil* sheds additional light on the ways in which Picabia translated functional renderings of real-world objects to not only create his brand of mechanically inspired abstraction but also to create a new visual language that served as a bridge between realism and abstraction. These translations are most apparent in his 1915–1917 Mechanomorphs—a series of portraits in which Picabia used the signs of industrial technology to represent his famous friends and acquaintances coalescing around Alfred Stieglitz’s Gallery 291.⁴ *Coil* more noticeably embraces the abstraction that some scholars argue Picabia had abandoned for his hybrid, Mechanomorphic portraits. Although *Coil* is more abstract, it represents a perhaps less-articulated yet more sophisticated synthesis of machine and abstract idioms that, to my eye, epitomizes Picabia’s creative objectives and his efforts to work simultaneously in abstraction and figuration. His engagement with realism and creative expression seems, at first glance, to be nearly devoid of the emotional charge that continued to fuel the dying embers of Romanticism in the early twentieth-century imagination. Yet, an element of Romanticism continued to propel Picabia in his Modernist explorations that included insights into the profound (and profoundly absurd) early experiences of the technological sublime.

The philosopher Jos de Mul (2012, p. 147) notes that in the period between the late nineteenth and early twentieth centuries, the inherently ambiguous experience of sublimity, which can elicit both pleasure and terror, “shifted from nature to technology”, adding that, with the rise of “secularization and disenchantment of nature, and the spectacular growth of the natural sciences and technology”, nature “increasingly becomes the object of technical control.” It is precisely this admixture of the thrill of power and the disquietude of the technical unknown wrought by the machine age that technical drawings, and, in

their own ways, Picabia's artworks, intended to address—technical drawings by clarifying, and Picabia's art by mythologizing, technology. It is no surprise, then, that Picabia used the language of technology to create his art, or that even his more abstract art hinted at a machine aesthetic in modern human experience.

Given its situation within Picabia's oeuvre, and within a set of artistic objectives described here as attempts to synthesize realism and abstraction, human and machine, and, in a sense, nature and culture, *Coil* also represents the artist's engagement with art—with visual representation—as a language that functions within specific culturally situated signification systems. For, despite the artist's embrace of early twentieth-century notions of creative originality, his work optimally signified, within the early twentieth-century visual culture that both celebrated and generated anxiety about the union of human and machine, the continual obsolescence in pursuing ever increasingly new visual and technological forms, and the upsetting of traditional societal roles in western culture. *Coil*, and other works by Picabia, use visual and textual language—presenting art itself as a powerful form of language—that expresses the very tension between the desire to depict reality and to explore more abstract pursuits. Indeed, Picabia deftly redeployed the technological signs of his times to synthesize visual and verbal representations in a way that paralleled the increasing coexistence of human and machine systems.

2. Perceptions, Conceptions, Depictions

By no means were artists and viewers unified in their embrace of new forms of technology or abstraction. Picasso perhaps best embodied this tension when developing, with his friend Braque, the push-and-pull perspectives of Cubism and the juxtaposition of industrially produced objects and art that inspired Picabia and an entire generation of artists. Indeed, one could say that considering how to process new perceptions of the modern world (made manifest by the imagery of modern skyscrapers, industrial production, and new and faster means of illumination and transportation) was a central preoccupation of the arts, humanities, and sciences. Additionally, new conceptions of layered and fragmented consciousness as disseminated by the work of psychologist Sigmund Freud and the radical new theories of relativity proposed by physicist Albert Einstein added to conceptual dilemmas, questions about identity, and even the very understandings of one's place in the world. Ideas about meaning and identity that had been established since the Enlightenment were being destabilized. In worlds as diverse as art and economics, new and more abstract forms were gaining ground, so much so that the military term *avant-garde* became the moniker for artists such as Picabia and a generation whose works were disseminated into a myriad of Modernist movements. Bearing this context in mind, which includes the pressures put onto artists and the very processes of artmaking by the rise of mechanical production, the detached, free-floating forms of *Coil* warrant a closer look.

The rings and other seemingly abstract forms depicted in *Coil* make no clear references to things in the world. Yet, they have a decidedly mechanical quality. They do not form the spiral we might tend to associate with the word 'coil'; the partially depicted, stacked, and alternately black and orange rings suggest a cylindrical form or perhaps a cut-away view of corrugated pipe or tubing. The coils in this image hint at three-dimensionality and recession into pictorial space. Yet, the top ring is shown head-on, as a full circle rather than the elliptical shape one would expect to see from the vantage point this rendering suggests. This mixed perspective—and the tension between abstraction and figuration, two- and three-dimensionality, legibility, and unintelligibility—reiterates the Cubist strategies that inspired Picabia and his peers. Though ostensibly an abstraction, the duality of perspectives in this work also rearticulates the language of the early twentieth-century automotive diagrams that, as was demonstrated by William Camfield (1970), Mariea Dennison (2001), and other scholars, inspired Picabia's art (Figure 2).⁵

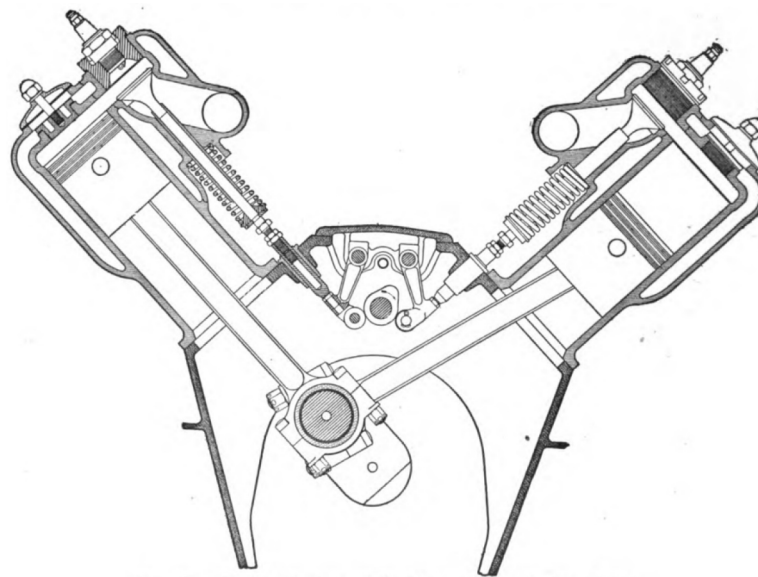


Figure 2. Section of Cadillac engine, in *The Gasoline Automobile* (Hobbs and Elliott 1915, p. 60) Public Domain. <https://babel.hathitrust.org/cgi/pt?id=uc2.ark%3A%2F13960%2Ft8gf0p29b&seq=78>, accessed on 31 July 2023.

Camfield (1966, 1970) has proven conclusively that Picabia referenced automotive and electrical diagrams in his *Mechanomorph* portrait of the writer Marius de Zayas, among other such works.⁶ Camfield et al. (2014, p. 327) also argues convincingly that *Coil* (he prefers the translation *Winding*) is an abstraction that is based on “a photographic illustration of factory workers operating a giant machine for winding” in the June–July 1922 edition of *La Science et la Vie* (Fourcault 1922).⁷ One can glimpse these references in Picabia’s drawing in the cylindrical stacked coils at the left, the backwards C-shaped arc at the right of the upper register, and the dark, irregular, quadrilateral form at the right that rearticulates the spaces between the teeth on the factory cogwheel in the photograph that accompanied an article lauding the merits of technology. Yet, these elements in Picabia’s rendering remain in dialogue with the other popular culture references he was known to consult. Indeed, his drawing may reference an amalgam of diverse source renderings that have one thing in common—their representation of machine systems that Picabia recontextualizes as art. The forms in *Coil* represented a language of machines in modern visual culture that Picabia adapted to create his own artistic idiom. It bears noting that, as with his more mechanomorphic depictions, *Coil* includes the insertion of text in addition to the artist’s signature. In this case, it is the work’s very title, which Picabia scrawled onto the upper left of the rendering, indicating Picabia’s engagement with language itself as art. The placement of the work’s title as a free-floating signifier in the same manner as the arcs and coils that appear to hover, detached from reality, over the ochre gouache of the background, indicates that signifying systems, as well as specifically, the language of technology, preoccupied the artist.

Like the rings in the painting, the floating arc in *Coil* appears to reference automotive diagrams. Three small red lines cut across its thick inner contour, forming small spikes resembling the spokes that abounded in automotive and technical diagrams of all varieties. As with its neighboring rings, the arc’s alternating colors hint at three dimensionality, while its innermost contour suggests the concave side of a cylindrical, three-dimensional object—another machine-like part. Closer inspection reveals that that this curved form is not a half circle after all. Instead, its slightly distorted shape resembles a diagram of a countershaft lever in the ‘How To’ automotive manuals Picabia, as an avid car enthusiast, was known to consult (see example in Figure 3).

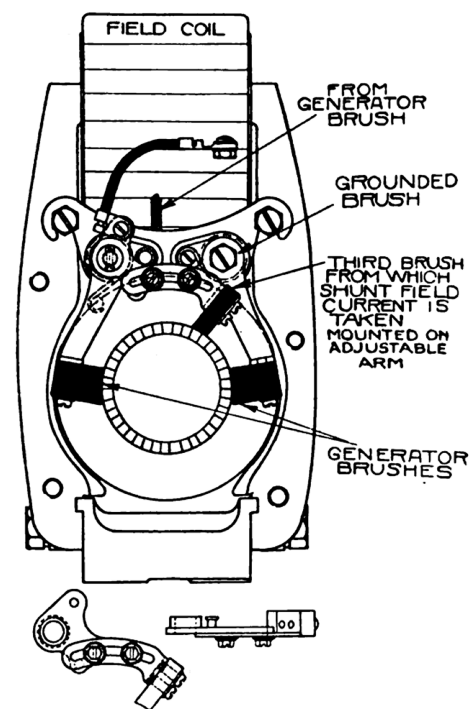


Figure 3. Diagram of generator brushes, *Dyke's Automobile and Gasoline Engine Encyclopedia*. (Dyke [1915] 1917, p. 406). Copyright by Goodheart-Willcox. <https://archive.org/details/dykesautomobileg00dyke>, accessed on 31 July 2023.

As with many of Picabia's other fantastical and abstracted artworks, *Coil* bears remarkable resemblances not to real world machines but instead to their symbolic representations. Considered within the context of Picabia's oeuvre and the related scholarship on his technical interests, one sees in *Coil* glimpses of mechanical, and specifically automotive, renderings, as well as the language of Cubism. Thus, one sees in this painting also the collage-like procedures of appropriating and recontextualizing imagery to create intriguing works of art. Indeed, Picabia's recontextualizing of technical diagrams in his visual art was a way of rendering by using collage strategies that are, Jacques Derrida (1982, p. 318) has argued, more generally used to characterize linguistic operations within semiotic systems. Analyzing relationships between representations, writing, and collage is nothing new. The term "collage" refers to the gluing of snippets of text, images, and objects from one context to another. Yet, as Derrida (1982, p. 318) has argued when discussing his concepts of citation and grafting, this very process characterizes semiotic operations.

3. Semiotics and Collage

As formulated by Ferdinand de Saussure ([1916] 2006) and other notable linguists, semiotics is the field of signs and signifying systems. Saussure is perhaps best known for demonstrating that signs function by way of selection and through their differences to other signs (by comparison within signifying systems) rather than by directly referencing things in the world.⁸ Signs thus rely upon both selection and dissemination to convey meaning. Studies in Structuralism and Poststructuralism have demonstrated that signs tend to morph over time and to be deployed and redeployed in a variety of contexts, highlighting the fact that context can profoundly affect meaning. Picabia's friend Marcel Duchamp most notably demonstrated these ideas in the art world with his adoption of what he called his Readymades—found or mass-produced objects including snow shovels, bicycle wheels, and even the infamous urinal he appropriated, retitled, and recontextualized as art.⁹

As Derrida (1982, p. 318) writes in "Signature, Event, Context", it is "by the same token, [that] a written sign carries with it a force of breaking with its context, that is, the set of presences which organize the moment of its inscription", and that "this force of

breaking is not an accidental predicate, but [rather] the very structure of the written.” This breaking with the context of production, appropriating, and abstracting the renderings of automobile components and the imagery of ‘how-to’ manuals functioned as a driving force in Picabia’s art, rendering the hitherto illustrative images unintelligible to the ordinary viewer. From his vantage point as an artist creating work in the golden age of abstraction, Picabia nevertheless remained in dialogue with the real (he embraced modern culture and in his lifetime owned over a hundred cars).¹⁰ However, he found in technical renderings a signification system that made modern machines intelligible to their users. He also developed a visual vernacular in his art that was enigmatic yet evocative of the mechanics that characterized modernity in ways that combined the banal and the technological sublime—two opposing interpretations of the machine age. His combining of opposing viewpoints reiterated the anti-reason of the Dada movement with which he was affiliated. Yet, his engagement with binary structures also reflects his exploration of the duality that, for the Structuralists, was seen as necessary to the construction of meaning. However, his collage-like combination of the signs of opposing viewpoints went a step further, rearticulating the very cut-and-paste mechanics of language that the Poststructuralists saw as both foundational and destabilizing, leading to the problematizing of binaries as not aspects of the real but rather as linguistic/conceptual constructs. In Picabia’s art, these notions are blended with an exploration of the dynamic boundaries between reality and conception, figuration and abstraction.

4. Picabia and the Machine Age

Enraptured by modern machines and their promise of power and newly achievable speed, Picabia (1915) proclaimed in a *New York Tribune* interview: “In my search for forms to interpret ideas through which certain human characteristics may reveal themselves, I have finally discovered the form that seems to me, from the plastic point of view, the most convincing and the most symbolic”, asserting: “I have taken over the mechanics of the modern world and introduced it into my studio.” Eschewing the idea of the mere formulaic copying of real-world objects, he created his abstracted machine aesthetic as “a way of communicating a state of mind, an inner tension or emotion by means of signs” (quoted in Zdenek 1998, p. 9). For Picabia, the vocabulary of the modern machine became a means to represent the thrill of modern life and its adoption of mechanical processes (demonstrated by acts such as driving, taking photographs, assembly-line production, and other processes combining machine and human locomotion). As has been noted by numerous scholars, he tempered his enthusiasm for modern mechanics by also depicting their failures, or at least the possibility of human operator errors, in his hybrid forms that combined dissimilar, even dysfunctional, machines.

Despite his embrace of technology, few of Picabia’s works actually depicted cars or complete machines of any kind. Instead, he adopted a fragmented, loosely mechanical vocabulary that he combined with Cubist idioms in his art. As Camfield (1979, p. 77) notes, these mechanical forms were deployed as a kind of “symbolism” meant “to comment on man and human situations.” With this conflation of lingos in mind, and considering the artist’s love of modern mechanics, it is no surprise that he explored the themes of creativity, production, and power, albeit sometimes in imperfect forms that destabilized the myths around modern, western, male dominance through technological innovation and progress. Circuits of motive power are symbolized by coils, gears, and wheels in Picabia’s art, where representations of production and reproduction, biology and mechanics are conjoined. Accordingly, works such as *Coil* warrant consideration in relation to his borrowings from diagrams of automotive parts, particularly as articulated in references to ignition coils, parts that rearticulate the coils’ shape, and the components of early ignition and drive systems (Figure 4). These resemblances make even more sense when you consider what the car represented to Picabia and many of his contemporaries—the promise of motive power and freedom often conflated with ideas about sexual prowess and the male libido. However, Picabia’s interest went further than that, and he appears to have pondered these

new forms and alluded to their symbolic representation of circulation, dissemination, and motive power.

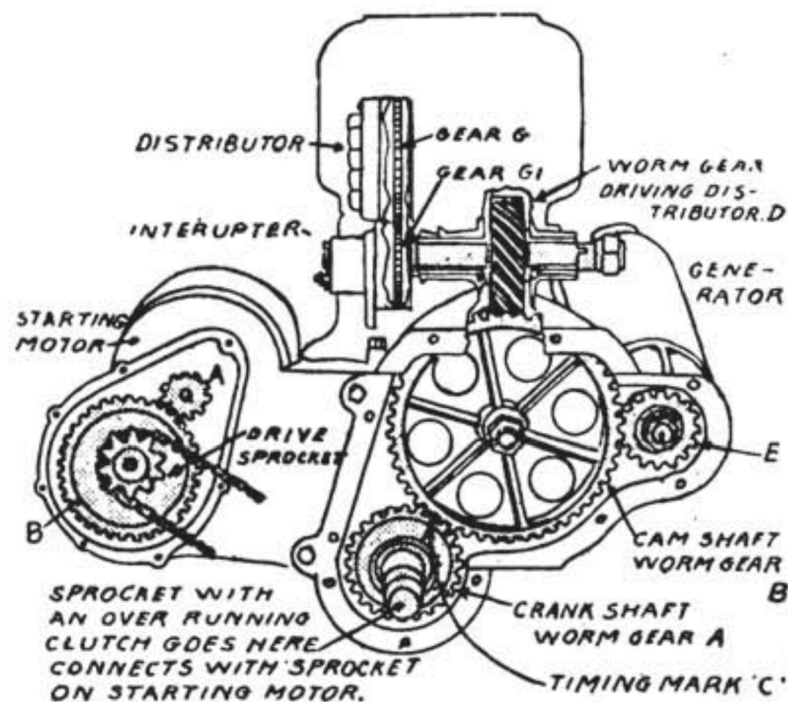


Figure 4. Engine diagram in *Dyke's Automobile and Gasoline Engine Encyclopedia* (Dyke [1915] 1917, p. 340). Copyright by Goodheart-Willcox. <https://archive.org/details/dykesautomobileg00dyke>, accessed on 31 July 2023.

Ignition coils (also called a spark or induction coils) can be diagrammed by a simple circle containing a smaller circle with plus and minus signs representing positive and negative electrical charges. These coils function within ignition systems to transform and amplify the current from the battery in order to spark the plugs, fire the engine, and start the car—a nearly magical moment representing the thrill of invention, ingenuity, and freedom of movement to car enthusiasts such as Picabia. Judging by his drawing and his praise of automotive power, depictions such as coils in automotive and other technical renderings were both visually and thematically important to him, providing readymade forms for the themes he wished to convey. The sexual metaphor of the auto and its firing mechanical parts that was seized upon by a predominately male population of early drivers and mechanics also appeared in Picabia's oeuvre, which is characterized by his odd brand of humor. Indeed, along with friend and notorious prankster Marcel Duchamp, Picabia embodied the antics of Dada—the modern art movement best known for its explorations of humor, chance, and absurdity. The two men brought the movement to New York, where they gravitated to wait out WWI. They continued in that vein upon returning to Europe and ultimately to Paris (Picabia by way of Barcelona and Zurich) until Picabia fled the last vestiges of the movement in 1921.¹¹ Although Picabia's abstraction appeared to break from Dada humor, it remained attuned to the ideas he and Duchamp explored with the Readymade, text, and context—and art made possible only within the structure of representation.

5. Picabia, Pistons, and Automotive Diagrams

As Camfield (1966, 1970, 1979), Camfield et al. (2014), and Dennison (2001) have shown, Picabia referenced automobile parts and diagrams in his *Mechanomorphs*, noting that he had access to automotive diagrams in the U.S. and enjoyed poking around under the hood of his many cars. Scholars such as these comment on the formal characteristics that

Picabia's 1915 Mechanomorph portrait *De Zayas, De Zayas* shares with Duchamp's famous mixed media piece *The Bride Stripped Bare by her Bachelors Even*, which is otherwise known as the *Large Glass*. Camfield demonstrates that Picabia drew his portrait in a way that suggests a specific automotive electrical diagram. While Camfield (1966) discusses Picabia's use of electrical schematics in early Mechanomorphs, Dennison (2001) considers this artist's references to car parts. These scholars consider parts-related sexual puns (prevalent in Picabia's work and, more generally, in popular culture), which for Dennison suggest biographical details of Picabia's life and amorous adventures. Yet, Picabia's deployment of parts, diagrams, and related puns reflect his playful investigations into the forms he deemed to be most appropriate to modernity, art, and abstraction that stopped short of the abandonment of references to the real that so threatened the more traditional views of art that had been established in the west since the Renaissance.

Cultural critic Walter Benjamin ([1936] 2008) argued that the age of mechanical reproduction, and specifically photography, was transforming modern art and life in ways that would empower the masses. Already, in the early decades of the twentieth century, artists such as Picabia embraced the machine and the promise of industrial production. Thus, Picabia (1915) proclaimed in a 1915 interview that "the machine has become something more than a mere appendix to life", adding that, "it has come to be an authentic part of human existence..., perhaps [even] its soul." To Picabia the car, which the early twentieth-century masculine imagination had gendered as female, was the ultimate machine for masculine expression and control.¹² For Picabia, the car represented not just the rush of masculine power in the modern era but also a symbolic economy replete with new signs not tied to the history of art and its outdated traditions. Thus, Picabia did not depict cars, he deployed automotive signs that represented and conflated a variety of mechanical, artistic, and gendered (re)productive notions.

Today the term 'automotive' refers to all things related to cars. But the meaning 'self-propelled' rang truer in the early days of the automobile. For Picabia (1913, 1915), technologically advanced vehicles driven by self-propelled motors were signs of human imagination, invention, and empowerment. His allusion to auto parts that rearticulated (in a mechanical vernacular) the acts of coupling, circuits of power, and (re)production—concepts that aligned with the quasi-humorous sexual puns he and his friend Duchamp used in their respective series featuring 'mechanical brides'—suggests that, for Picabia, these were the ideal modern art forms that best represented radical and destabilizing changes in modern industrial culture. He saw the car as the ultimate human expression—indeed, the extension of the modern human—and references in his work to automotive parts and systems circulating in popular reference manuals served as synecdoches for systems of modern living, creation, and communication.

Although Picabia drew his communicative circuits with the inspiration of automotive diagrams, his sometimes-humorous renderings of dysfunctional technology hinted at trial-and-error processes rather than pure ingenuity. It was the *processes* made possible in modern life, more than specific objects, to which Picabia's signs referred. Instead of painting skyscrapers, Picabia purported to depict "the rush of upward movement, the feeling of those who attempted to build the tower of Babel—man's desire to reach the heavens, to achieve Infinity." Instead of depicting racing cars, Picabia (1913) asserted that his goal was to portray the signs and sensations of modernity, adding that "if you are capable of accepting [these] impressions [then], from my picture of an automobile race you will be able to achieve the same suggestion of wild desire for speed, the excitement of that hundred mile an hour rapidity, that the driver himself feels." The rings, arc, and spoke-like lines in Picabia's *Coil* do not represent the speed he referred to in his 1913 *New York Times* interview or renderings of that era, but they do represent the artist's interest in referencing mechanical language as a paradigm for modern art. He engages with this machine aesthetic in a way that combines his brand of realism with abstraction, suggesting both trial-and-error processes and exuberance about the human capacity to shape the modern world.

Coil refers nominally, pictorially, and thematically to not only the winding machine in *La Science et la Vie* discussed by Camfield et al. (2014, p. 327) but also, this paper argues, to the ignition coils that are crucial components of automotive starting systems. These coils communicate between two automotive power circuits. The primary circuit generates and circulates relatively low-voltage battery power, firing a spark plug and sending power to the ignition coil. The coil then converts the battery signal into a high-voltage charge. This increased charge moves through the secondary circuit, times, and sends current to spark the plug, which ignites an air-and-fuel mixture that combusts in the engine cylinder.¹³ A Dyke's ignition diagram shows the coil at the upper right and, using arrows, signals its function as a conduit for the two circuits of power (Figure 5). Picabia's coils do not seem to be wound like the coil wire in the diagram and there are many differences between these renderings. But visual parallels in the diagrammed imagery of wound wire, corrugated ripples, geometric forms, and the cylindrical tube indicate that Picabia looked to this vocabulary to compose his painting. Additionally, certain basic shapes stand out in both renderings. The wide, upside-down half circle in the lower portion of the diagram, which represents the current moving along the cam and drive housing, calls to mind both the upper half circle of the rings and the large, red, and white arc in the painting. And, if one flips the diagram upside down, one sees interesting points of comparison. The arrows marking the flow of current along the curved housing provide the hint of three-dimensionality seen in Picabia's red and white arc. Further, although the arrows in the diagram point in different directions, they seem to be in dialogue with the unusually pointed spokes in the painting. And, though fragmented, as though separated by a layer of space floating above the backdrop of ochre (another translation of automotive diagrams against a plain backdrop), the forms in *Coil* seem to relate and function as a system—although we are not sure how.

The circuit diagram in Dyke's also shows the coil in relation to the piston, intake valve, and timing and drive gears—other elements Picabia often mimicked in his art. The piston is diagrammed just left of center and its corrugated rings can be seen mirrored in the rings of *Coil*. The piston crown—the small, half-circular shape at its top—also appears to prefigure the half circles of the painting, appearing to continue the circle implied by the wide upside-down arc in the diagram. The two half circles in the diagram function in relation to one another, like the arc and rings in Picabia's drawing.

Pistons (most vehicles have 3–7) power a motor, processing four automotive systems to do so: fuel and air intake, compression, combustion, and exhaust. A connecting rod links the piston to the car's crankshaft, which turns the gears that power the drivetrain. These elements held a particular appeal for early car enthusiasts, as did the fact that during this rotation the piston moves up and down, pushing the fuel and air in and sucking them back out of the engine's cylinders (also Figure 5). These processes seemed rife for the kinds of sexual metaphors and puns that preoccupied Picabia and his mischievous Dada friends. As the piston makes its way toward the high point of its rotation, moreover, a mixture of fuel and air is injected into the cylinder by a carburetor or a fuel injection system. Nearing the uppermost point in its rotation the piston compresses the fuel and air that has been injected into the cylinder and this compression increases the explosiveness of the fuel. When the piston hits the top of the cylinder, the spark plug fires, igniting the fuel for combustion, pushing the piston back down to the bottom of the cylinder, and expelling residual combustion through an exhaust outlet.¹⁴ On one hand, the piston's motion into the cylinder can be viewed as analogous to sexual intercourse, with the piston taking the male role (a pun that seems to have been made in a number of works by both Picabia and Duchamp that depict sex in a mechanical way). On the other hand, the portion of the piston that enters the cylinder is sometimes called the skirt, which assumes a female role as it is thrust into that position by the connecting rod. Thus, the piston and its connecting rod function together as a pair—a dual-gendered set of automotive parts.

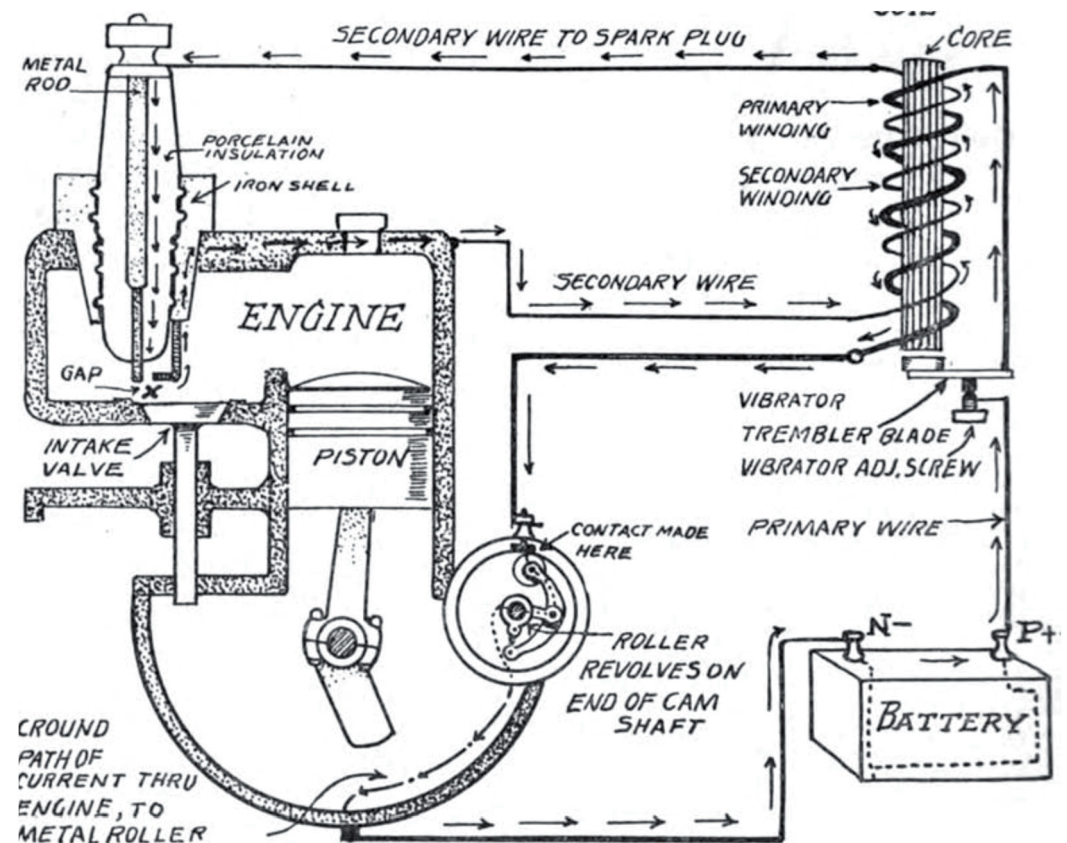


Figure 5. High Tension Ignition System in *Dyke's Automobile and Gasoline Engine Encyclopedia* (Dyke [1915] 1917, p. 218). Copyright by Goodheart-Willcox. <https://archive.org/details/dykesautomobileg00dyke>, accessed 31 July 2023.

Through the imagery and symbolism of automotive parts such as pistons and coils, Picabia played with gender roles and reversals, adding a layer of complexity to his otherwise masculine approach to art and technology. Such play held a fascination for him and his friend Duchamp, who also experimented with gender bending and with conflating biological (specifically sexual) and mechanical processes in his art. As George Baker (2010, pp. 2–4) demonstrates, Picabia and Duchamp were profoundly attuned to their friend, the poet Guillaume Apollinaire's conception that "artists are men who want to become inhuman" and that their work elaborated transitions "not only from virgin to bride" but also "from body to machine." Conceived of as a hermaphroditical car part, references to piston imagery in Picabia's art suggested an intriguing mechanical bride, representing a self-sustaining system of (re)production and automotive power. Picabia's use of mechanical parts for human expression, and substitution of mechanical for anatomical parts in his early twentieth-century art suggests that he grounded his modern symbolic economy in the automobile as a kind of cyborg—an extension of and supplement to human creative capacity that he explored in the fullness of its relationships with reality and representation, the human and inhuman, and even male and female roles now destabilized by the advent of industrial augmentation.

6. Cubism, Anatomy, and Simultaneity

Like his friend Duchamp, Picabia got his start in the Cubist salons that were all the rage in Paris. But he soon tired of analyzing objects to depict abstracted and ostensibly simultaneous views. He began exploring Orphism (a lyric offshoot of Cubism that featured color and curvilinear forms) and Futurism (the Italian movement that combined Cubism, color, and motion in celebration of modern technology). Even so, some key tenets of Salon Cubism shaped his work, and he began merging these strategies as he mingled in 1911–1912

with the Puteaux Group of Cubists (the Duchamps, Gleizes, Léger, and Metzinger among others). When Picabia ([Borràs and Picabia 1985](#)) arrived in New York for the first time to participate in the Armory Show the *NY Herald* even announced him as “the leader of Cubism.”¹⁵

One can see the mechanics of Cubist fragmentation in Picabia’s figural depictions that reference passages or transitions while, as [Baker \(2010, p. 3\)](#) notes, also poking fun at *passage*—the planar technique of painting that originated with Paul Cézanne and inspired the Cubists. Picabia’s 1913 *Little Udnie*, an abstracted depiction of a dancer, exhibits Cubist juxtapositions combined with Orphic color and Futurist movement. In the language of Orphism, and in contrast to many Cubist works, the painting also features curved forms that suggest rhythm and the swaying of the dance. Picabia’s 1913–14 painting *I Still See in Memory My Beloved Udnie* (Figure 6) retains the primarily organic vocabulary yet hints also at machine parts. As different as it is, this painting warrants a closer look in considering the context of work such as *Coil*. Indeed, the mechanical apparatuses in *I Still See in Memory* are so integrated with the organic forms they are barely discernible. Yet, they are powerfully present. Already in his 1913 drawing *Daughter Born Without a Mother*, Picabia had created a strange bio-mechanical figure that is at once figural, abstracted, and machine-like and that conveys the ideas of cyborg figures and self-perpetuating systems. Suggesting the self-propulsion of an automaton, *Daughter Born Without a Mother* and a later painting by the same title reveals the artist’s interest in not only automotive power but also the concept of the cyborg *avant la lettre*.¹⁶ As Juan Antonio [Ramírez \(1998, p. 123\)](#) elaborates, both Picabia and Duchamp experimented with depicting artificial women and in Picabia’s *Udnie*, Cubist strategies “made way for a more mechanical iconography to explain the [seemingly] non biological origin of [otherwise mystifying] females.” Ramírez points to corsets, bustles, and other modern contraptions used to modify women’s appearances as impactful to these ideas. The high-tech and prosthetic-savvy culture that emerged against the backdrop of WWI (1914–1918) would also begin to conceptualize a fusion of human and machine ([Antliff 2001](#); [Baker 2010](#); [Ramírez 1998](#)).

The painting *I Still See in Memory* is one of Picabia’s works that explores the mosaic forms of Cubism yet creates a matrix in which human being and machine parts coalesce. A collection of intertwined forms appears to be placed on a sculptural pedestal. The earthy hued rectangles of the base look like stone steps or slabs in a Cubist simultaneity of views. Yet, on this base sits a flower-like yellow and purple form. Although it looks more organic, closer inspection reveals that the element that appears, at first glance, to be floral stamen is one of two ring or coil-like tubes that mimic the automotive coils providing source material for so many of Picabia’s paintings. These forms also suggest the springs operating automotive intake valves, which send gas into the cylinder during combustion, and which also feature in automotive manuals ([Dyke \[1915\] 1917, p. 89](#)). In referencing springs and valves Picabia again referred to automotive diagrams, mechanical processes, and circuits of communicative power.

The tubular form in the foreground of *I Still See in Memory* is also a phallic shape—a sign of male power embedded in a floral form that in the early twentieth century tended to be regarded as female. A bright yellow ball suggesting an illuminated gas or flame held by an equally abstracted and downward-swooping figure, is nearly in the tube’s trajectory and this line of sight promotes a sense of projection, as if the tubular, now gun-like arm is firing a shot (an image also seen in the drawing *Daughter Without a Mother*). Once these gun arms come into focus in *I Still See in Memory*, they take the shape of a human, mechanical, or hybrid figure hiding behind the quasi-organic flower. Likewise, the forms that suggest a figure swooping down from the upper picture plane towards the canon and holding the figure’s flame-like ball appear to be clothed in futuristic garb that includes an insect-like helmet. As [Ramírez \(1998, pp. 136–38\)](#) points out, the insect (wasp) for Duchamp was another reference to the uncanny sexuality of the otherworldly mechanical bride, who also descends, hovering above the awaiting bachelors in Duchamp’s *Large Glass*. In Picabia’s work, *Udnie* (likely a reference to the actress and dancer Stacia

Napierkowska, who the artist met en route to New York) dangles from a ceiling dripping with organic matter and industrial tubes alike.¹⁷ And this conflation of veins and tubes is key, since these vessels transport the fuels needed for human and machine locomotion (and reproduction), respectively. Their entwinement here suggests their perceived merging in a culture that paved the way for the questioning of the boundaries between human beings and the machines they create—between human life and automation.



Figure 6. Francis Picabia, *I Still See in Memory My Beloved Udnie*, 1914 (possibly begun 1913). Oil on canvas, 8' 2 1/2" × 6' 6 1/4" (250.2 × 198.8 cm). © 2023 Artists Rights Society (ARS), New York/ADAGP, Paris. Digital Image © Museum of Modern Art/Licensed by SCALA/Art Resource, New York. Museum of Modern Art, New York.

Paintings such as *I Still See in Memory* suggest that in addition to automotive and other technical diagrams, medical illustrations might have also served Picabia as visual sources. The dangling, vein-like forms in the painting resemble anatomical diagrams—technical drawings of the human body as biological machine. In such manuals, one could find cut-away views of the human body and in particular of the abdominal cavity that differed only in content from their mechanical counterparts. In one such diagram ribs and muscles are sectioned to reveal an oval cavity remarkably similar to Picabia's composition (Cunningham and Robinson 1912). Indeed, a dark gray area in the center of Picabia's painting contributes to the sense that one is peering inside a slightly oval cavity. Further, the grey forms that curve slightly outward and frame the figural group in the painting mirror the curves of the ribcage and hips in the diagram, in which the bladder, stomach,

liver, and ligaments are just visible at the cavity's ceiling, dangling just behind the sectioned ribs at the top of the frame. The large, sectional, ringed tube of the colon curves around the cavity walls terminating in a short, cut-away section of tube at the lower left. It points down but occupies about the same position as the outer arm in Picabia's painting. Another tube at upper center is cut away so that its roughly circular canal opening can be seen by the viewer. Echoes of diagrammed human valves also appear at the lower left of Picabia's painting. Anatomy illustrations, which appear to have also informed Picabia's new pictorial language, epitomized the projection drawing that artists in industry and Cubism alike thought capable of representing the true nature of reality, peering into the unseen world of the body and bringing it to light. Although *I Still See in Memory* features messy organic forms, it combines them with the linear, abstract, penetrating language of technical drawing. Interestingly, Picabia exhibited these works in the same year he began showing his industry-inspired Mechanomorphs at Stieglitz's 291 Gallery in New York. Each of these renderings takes a diagrammatic approach that both suggests and abstracts reality and juxtaposes human and machine.

7. Picabia and Cubist Projection

Picabia's proclamations that mental forms were the ultimate reality—and that imagined forms can shape reality—did not merely represent a modern brand of idealist philosophy; instead he referred to new understandings about abstraction and realism encompassing a spectrum, rather than a dichotomy, of approaches (Borràs and Picabia 1985; Zdenek 1998). As Gordon Hughes (2014, p. 29) notes in his writing on Cubist contemporary Robert Delaunay, "Cubism, in the majority of its myriad forms revolved around a central underlying premise: that vision, conventionally understood, could no longer serve as a basis for a pictorial realism." Cubists and many of the artists who began their careers in Cubism's wake sought to create new forms—new visual languages—that they believed to be more suited to representing modern experience. As Hughes (2014, p. 29) adds, "By replacing visual realism with conceptual realism, Cubism sought to lay bare the ontological ground of its subject matter." Despite Picabia's rejection of strict verisimilitude, his work was nevertheless realist in the sense that it posed powerful mental, rather than retinal, forms to be authentic. Moreover, his engagement with Cubism no doubt left its mark in suggesting that art that might appear to be abstracted might also convey ideas about how we know and experience the world.

Gleizes and Metzinger ([1912] 2000, p. 194) had elaborated upon a of projection of 'the real' in the 1912 essay "Cubism", writing of a yearning for realism in all modern art and arguing that this drive for reality went "deeper than academic recipes" or retinal models of painting. According to Gleizes and Metzinger ([1912] 2000, p. 194), "The yearning for realism was split into superficial realism [the art of mere copying] and profound realism [the art of the Salon Cubists with which he associated]." The latter, they argued, belonged to Cezanne and the Cubists and was the only viable model of painting upon the collapse of classical figuration with the advent of Modern art and mechanical reproduction. Recognizing that realist painting in the traditional sense no longer seemed necessary or authentic, Gleizes and Metzinger advocated new visual signs to replace hackneyed, realist clichés. Yet, they asserted the need for artists to cling to natural forms in some way, arguing that objects have multiple forms, posing a relative rather than singular, absolute reality. According to Gleizes and Metzinger, the painter must compose using forms appropriate to painting, the laws of taste, and mental and physical life.

Picabia supported the mission to find appropriate forms for modern expression, writing both that "style" is a way of communicating "by means of signs" and asserting that this expression included "the aspect [or form] of such signs" (quoted in Zdenek 1998, p. 9). But Picabia challenged the Salon Cubists' claim to realism. He even challenged their desire to copy the real. Instead, he asserted the importance of an artistic language grounded in mental forms. Despite rejecting the Cubist brand of realism, Picabia shared a realist vision in posing cognitive and imaginative, rather than retinal, forms as the most relevant

forms of reality fit for artistic depiction. These ideas aligned with Gleizes and Metzinger ([1912] 2000, p. 201), for whom a realist: “will fashion the real in the image of his mind.” For Picabia, mental forms that referred to reality but could also shape it were the ultimate truth. With automotive forms viewed as material extensions of the human mind and its ingenuity, he drew from them, abstracting machine parts to form his pictorial language.

Futurists had likewise adopted the language of Cubist dissection and simultaneity to celebrate the dynamism of urban life made possible by the modern machine. As Christine Poggi writes, they “were interested in finding ways of suggesting the interpenetration of an object or figure with its [modern] environment (Poggi 1992, p. 166). These ideas fascinated Picabia, who retained but transformed them in works that looked less and less Cubist. “In my search for forms to interpret ideas through which certain human characteristics may reveal themselves”, Picabia (1915) proclaimed, “I have finally discovered the form that seems to me, from the plastic point of view, the most convincing and the most symbolic.” Thus, Picabia (1915) pontificated that he had “taken over the mechanics of the modern world and introduced it into the studio.” His art of the teens and twenties suggests that he embraced the car as an extension of the modern human. Indeed, the car, for Picabia, suggested the fusing of human and machine. Although cars were conceived of as using the pronouns she and her, motivated by the male driver in the popular and still largely misogynistic culture, the car itself liberated both sexes and was, after all, propelled by a mechanical assortment of both “male” and “female” parts. Picabia’s embrace of automotive imagery tended, then, to create a brand of modern art that was outwardly confident of human control while at least tipping a hat to the destabilizing effects of modernity, technology and abstraction that impacted gendered identity.

The philosopher Jean-Joseph Goux’s (1994) discussion of the language of Cubism and early movements towards abstraction in *The Coiners of Language*, which takes as a starting point Andre Gide’s novel *The Counterfeiters*, provides, if obliquely, an interpretive framework in which we might consider Picabia’s combining of visual forms, figuration, and abstraction. Goux’s (1994, pp. 15–17) description of forms of currency (money that represents objects with greater or lesser degrees of guaranteed value) provides insights into an early twentieth century era that saw the rise of abstraction (and wrenching of signs from their real-world referents) in not only the arts but also the sciences (think Einstein’s theories of relativity), and even, as previously noted, economics. New thinking about relationships between abstract forms and reality, and between signifier and signified, impacted artists such as Picabia as they explored the very boundaries between figuration and abstraction.

For the sake of this discussion on Picabia, Goux’s analogy translates to something like this: instead of painting being tied to traditional values or objects in the world (as with the monetary gold standard) on the one hand, or to art that plunged into sheerly abstract forms (as with the fiat or purely representational/free-floating currency that would come to reign supreme in the later twentieth century) on the other hand, Picabia’s work sought a middle ground (a kind of representative currency) in which abstraction entered the picture to enhance rather than to displace engagement with real-world references. Picabia posed his painting as being detached from the traditional standards of value epitomized by realist figuration, yet grounded his work in modernity’s thrilling new perspectives. As Goux (1994, pp. 15–17) notes of modern representation more broadly, “Language [would] no longer be conceived as fully expressive (or as being *capable* of adequately expressing) reality or being; it will necessarily be conceived as a means, a relatively autonomous instrument, by which it is possible to represent reality to varying degrees of exactitude.” In this context, according to Goux (1994, pp. 15–17), “language is [viewed as] an instrument that, under certain conditions (such as intuition or experience) makes it possible to give a valid representation of reality.”

We can see these ideas at work in Picabia’s Cubist paintings, in his development of his mechanical vocabulary, and even in his *New York Times* interview of 1913, in which he derided the Cubists for trying to depict reality in new pictorial terms. According to Picabia (1913), “The Cubists made a great mistake... They are almost as much as the old

masters slaves to the—to me—strange desire to reproduce the original model.” He did not seek to reproduce the original, asserting instead that “you will find no trace of the original in my pictures”, and adding that his paintings conveyed his impressions of the vibrant experiences made possible by modern industry (Picabia 1913). In painting modern skyscrapers, Picabia (1913) thus proclaimed: “I give you the rush of upward movement, the feeling of those who attempted to build the Tower of Babel—man’s desire to reach Infinity.” In painting cars, he thus added: “From my picture of an automobile race you will be able to achieve the same suggestion of wild desire for speed, the excitement of that hundred mile an hour rapidity that the driver himself feels” (Picabia 1913).

As Baker (2010, p. 225) notes, “Picabia’s later mechanomorphs reveal the repressed fact that abstraction and the Readymade (the name given by Picabia’s friend Duchamp for the factory produced objects he recontextualized as art) were two sides of the same coin.” This is to say that abstraction (in this case *à la* Picabia) and the Readymade shared the same conditions of production—the detachment of the sign from its clear referent in the world. Photography’s mechanical imaging exemplified and, in part, exacerbated this detachment, rendering realist figuration irrelevant, even dishonest, in the minds of many artists. Picabia grappled with this new condition of rendering, arguing for the art of painting as a translation of thinking and a way to depict the reality of creative experimentation. Accordingly, in challenging a prediction made by his grandfather, the noted amateur photographer Alphonse Davanne, that color photography would eventually replace painting, Picabia retorted: “You can photograph a landscape, but not the forms I have in my head” (qtd. in Picabia Comité 1990). Such statements demonstrate his belief that he could compose pictorial signs to create authentically modern representations.

Picabia took a dual approach, as many scholars have acknowledged, looking to the machine even as he abstracted it. He did this by copying from technical diagrams—abstracted copies—rather than by depicting the machine parts themselves, creating not just copies of copies but rather abstracted adaptations. With no clear attachment to the objects they depicted, the diagrams that fueled the artist’s imagination were merely tokens, according to Baker (2010). Thus, he argues, Picabia’s pictorial signs functioned within a symbolic economy that highlighted the crisis in representation—the rift between signifier and signified evident across the disciplines in the early twentieth century.

In her chapter, “The Language of Industry”, Molly Nesbit explores the role of conceptual processes in the work of Marcel Duchamp. As noted previously, her discussion of Picabia’s famous Dada comrade provides key insights into Picabia’s machinist language, some of which he developed in tandem with Dada cohorts. Nesbit (1991, p. 353) argues convincingly that secondary educational drawing manuals informed Duchamp’s Dada production—an argument that this essay extends to Picabia’s mechanical vocabulary. According to Nesbit (1991, p. 353) the typical French curriculum featured drawing instruction that socialized children to look and think in terms of “the language of industry”. This ‘*language of the line*’ technical education, in which the line was represented as the most rational/masculine form of rendering, socialized students along *gendered* lines, according to Nesbit, and demarcated the masculine field in which Cubism flourished.

Salon Cubists such as Gleizes and Metzinger ([1912] 2000), also adopted a rhetoric of linearity and reason in their brand of profound or absolute realism that, as Hughes demonstrates, claimed to peer beyond the retinal to depict structural reality. According to Nesbit (1991), such rhetoric evolved from the language of the line that was privileged by the instruction of technical drawing in France and the categorization of drawing into polarized sections—on the one hand, projection and on the other hand, perspective, which were gendered as masculine and feminine, respectively. Instructors continued to teach female students technical drawing based on Renaissance perspective and the description of space and surface appearances, training female students in what were considered to be the gender-appropriate activities of designing sewing patterns and tapestries. In stark contrast, boys were taught that they could penetrate surface appearances, peer (project) into unseen, linear structures, and probe the very essence of reality. The projection drawing taught to

male students was presented as geometric, abstract, technical, mechanical, structured, and real. According to Nesbit, the *cube* was the limit of such instruction for female students and served as the point of departure separating male and female drawing activities. Contrary to providing a uniquely modern point of view, Salon Cubism reiterated this language of projection in the guise of a new and revolutionary artistic movement. Although Picabia attended private schools, he likely received similar drawing instruction. Moreover, in addition to the artistic training he later pursued when studying painting at the *École Nationale*, the *Atelier Cormon*, and briefly at the *École du Louvre*, he also studied technical drawing at the *École Nationale Supérieure de Arts Décoratifs*—a course of study his family hoped would land him a career in furniture or porcelain manufacturing. While Duchamp moved away from painting altogether to explore the Readymade when he renounced his Cubist ties, Picabia continued his work with the language of the line, using technical diagrams as sources for even his more abstract art.

8. Conclusions: *Coil*, the Technical Vernacular, and Cyborg Culture

Proclaiming his mission to project the spirit of American machinery in his art upon his arrival in New York as an exile of WWI, Picabia began his mechanically motivated renderings in 1915 (Borràs and Picabia 1985, p. 157; Antliff 2001, p. 10). His drawing *Behold Her* (Figure 7) of that year also featured the biomechanical compositions of the several works just discussed, but in a more solidly mechanical language. Dispensing with the suggestion of human biology as organic matter, the articulation of what otherwise resembles another abdominal cavity now appears robotic, as if cleanly cut into a cubical housing that serves as the alluded-to figure's torso. Few of Picabia's works copy technical diagrams exactly. But the housing/body of this figure suggests mechanically produced parts and their cut-away views in automotive guides.

In Picabia's drawing, a large pipe capped by a curved form emerges from a housing and serves as the figure's head and neck. The outer arm takes the form of more than just a mechanical appendage, but also a weapon, forming the shape of a gun in a possible play on the term "arms" that may also conflate the gun and its potential firing with the male phallus and ejaculation. However, the gun stands in for a hand that is connected by a machine-fitting to a curved tube that replaces the arm. And these contraptions likely also reference the mechanical intercourse alluded to habitually by Picabia and his friend Duchamp. A round pulley sends strings to the gun barrel and the trigger. Despite the armament references, if the gun hand were flipped up diagonally to the upper right (in the position of the nearby pulley), the composition would mirror an actual diagram of a hand cleaning the inside of an engine cylinder with a long-handled scraper in *The Gasoline Automobile* manual of that same year (Figure 8), again conflating human and machine processes. In Picabia's drawing, the gun, the fitting, and the parts of the pulley are rendered in more detail. The fitting and gun barrel are fully modeled in the artwork, and the gun handle is filled in with black, calling attention to both the constructive and destructive power of the human hand and its creations. The round form serving as the upper-pulley mechanism resembles any number of the round gears found in engine diagrams and may reference timing gears, crank shafts, or crank pins, each of which turns as the engine moves (see Figures 3–5). Although the pulley in Picabia's drawing replicates, in a more mechanical language, the dangling figure of *I Still See in Memory*, the base or foot of the cyborg figure at the lower left of the drawing doubles as a phallic form that rearticulates the shape and position of the barrel of the gun arm. Once again, Picabia morphs multiple human and machine forms into one—alluding to the multiple perspectives and the act of peering into inner mechanisms that privilege ideas about masculine power and, perhaps, the machine as a female to be possessed and controlled. *Coil* appears to be a later iteration of such mechanisms, now with erasures of the connecting (diagrammatic or realist) elements creating more abstract forms.

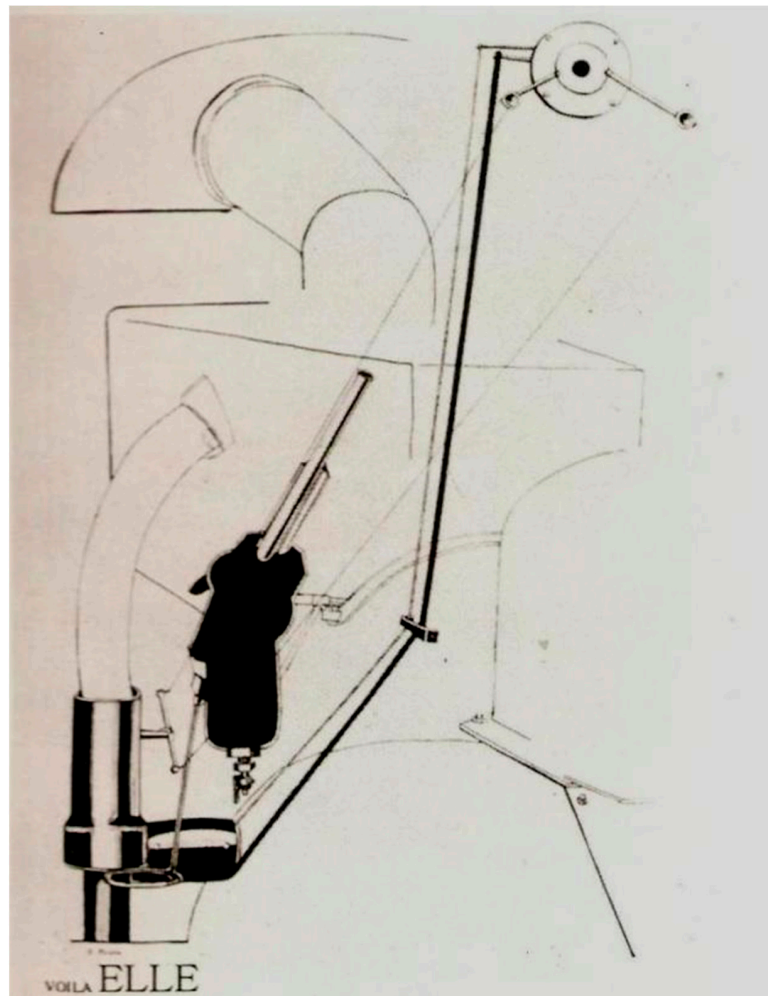


Figure 7. Francis Picabia, *Behold Her*, 1915, pen and ink on paper. Reproduced: 291, No. 9, New York, November 1915, p. 3. © 2023 Artists Rights Society (ARS), New York/ADAGP, Paris The New York Public Library Digital Collection. <https://digitalcollections.nypl.org/items/6b627ff1-9a5c-53e2-e040-e00a18065cb0>, accessed 31 July 2023.

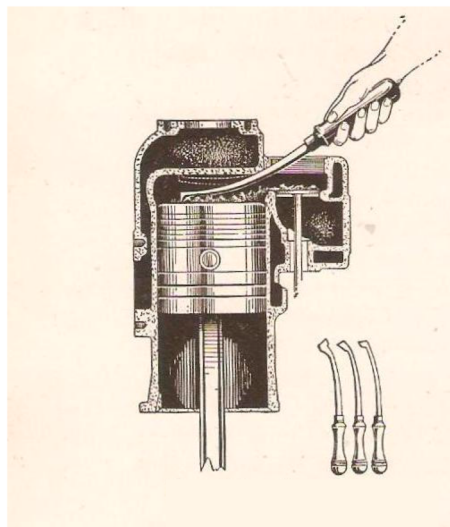


Figure 8. Scraping the Cylinders in *The Gasoline Automobile* (Hobbs and Elliott 1915, p. 220) Public Domain. <https://babel.hathitrust.org/cgi/pt?id=uc2.ark%3A%2F13960%2Ft8gf0p29b&seq=238>, accessed on 31 July 2023.

Aside from the gun, the diagrammatic forms in *Behold Her* again suggest a compilation of mechanical processes, the figure's connecting rods again also alluding to pistons and automotive power. Indeed, the piston's sexual allusions were as apparent in Picabia's artworks as they were in the technical manuals and diagrams to which he turned for inspiration. As [Dennison \(2001, p. 278\)](#) notes, in a car engine "the connecting rod moves with the piston up and down inside the cylinder" in a manner analogous to sexual intercourse that was seized upon by the producers of industrial guides to entice their primarily male audiences. In Picabia's work, the image of the piston offers an unusual twist, its connecting rod functioning more emphatically as a dual-gendered machine. Despite embracing a masculine view of linearity, this gender conflation in machine parts, such as coils and pistons, offered just the kind of play that thrilled Picabia and his friend Duchamp, who engaged in gender inversions of his own when performing his alternate persona Rose Sélavy.

If Picabia's use of dual-gendered automobile parts is not immediately apparent in a work such as *Coil*, it is clear when examining other of his artworks discussed in this paper. Another notable example is his 1918 drawing *Hermaphrodisme* (Figure 9), which featured in his book *Poems and Drawings for a Girl Born Without a Mother*, and continued his thematic exploration of the machine in relation to the human body, gender, and sexuality. In his 1918 drawing *Hermaphrodisme*, mechanical forms are humorously labeled as human reproductive elements. Gone are the obvious figural forms, as they have been replaced by nonsensical machine diagrams of human reproductive parts. In the drawing, a large cylinder cuts diagonally across the picture plane and again suggests the shape of a piston (Figure 10). A triangular shape made by two intersecting lines, in turn, cuts across the cylinder; the lower line is straight and thin and extends outward beyond the cylinder's boundary. It is labeled *mâle haché*, which literally means chopped or minced male and alludes to castration. But it may also suggest a masculine chopper, as indicated by its phallic, blade-like form. An egg-carrying tube labeled oviduct suggests that the label could refer to a male hatchery—where new males are produced. Once again, technical drawing is alluded to and is accentuated by the line of circles demarcating the movement of these eggs, which recalls the directional marks indicating flow and function in mechanical renderings (see Figures 5 and 10). The lines, circles, and a crank-like knob in the drawing likewise mimic the timing gears, cams, and crankshafts in diagrams of pistons. One sees such elements in *Coil's* rings, arcs, and slash-like spokes.¹⁸

In his discussion of the concept of the human-machine cyborg spawned by the technological horrors of WWI, [Antliff \(2001\)](#) addresses the work of Picabia and other artists who dealt with this theme. [Antliff \(2001, pp. 106, 111\)](#) argues that a theme of dysfunctionality in *Hermaphrodisme* marked the evolution of Picabia's wartime cyborgs from "ciphers of humanity's capitalization into a nightmarish echo of the war he longed to escape." Yet, works such as *Hermaphrodisme* retain a degree of Dada humor (not merely its nihilism and fascination with the absurd) in alluding to potential dysfunctions in the relationships between human beings, machines, and their reproducing signifying systems. Despite the added dimensions of fish (and perhaps metaphorical fishing expeditions in the lower label and the crank's resemblance to a fishing rod and reel) and the reference to the elimination of wasted eggs, fishes, or small persons in *Hermaphrodisme*, the drawing outlines automotive/self-motivating, dual-gendered/self-sufficient functionality—a combination of odd musing, modern dream, and absurdist nightmare. These elements suggest that the machine language, and in this case the diagrams of pistons, functioned as a signifying system—one that represented both human productive and destructive capacities, be they biological, mechanical, or artistic. Dispensing with the elaborate diagrammatic rendering, *Coil* nevertheless alludes to a comparable set of images and ideas.

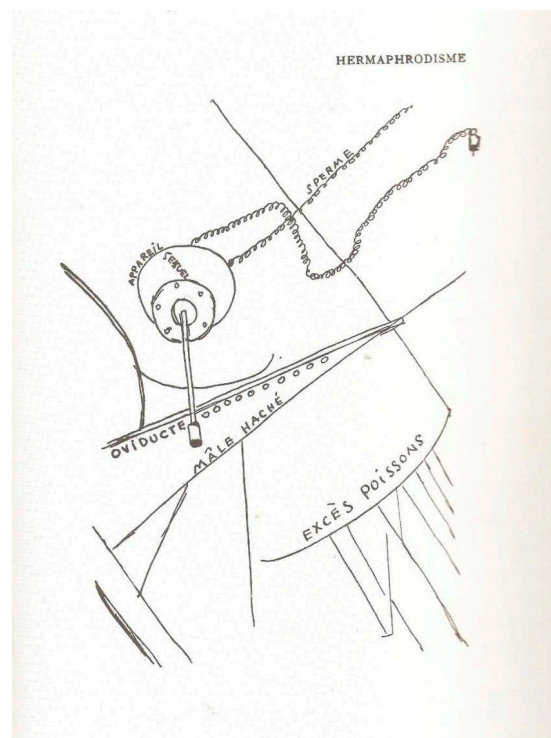


Figure 9. Francis Picabia, *Hermaphrodisme*, c. 1918. From *Poemes et dessins de la fille nee sans mere* (Lausanne, Switzerland, 1918). © 2023 Artists Rights Society (ARS), New York/ADAGP, Paris. Project Gutenberg. <https://www.gutenberg.org/files/56952/56952-h/56952-h.htm>, accessed 31 July 2023.

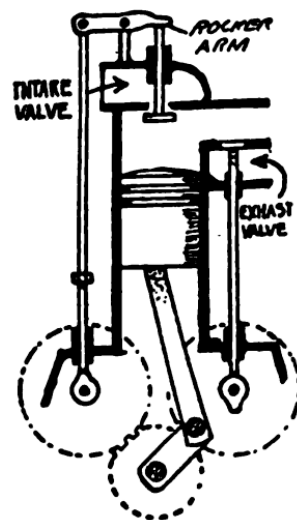


Figure 10. Inlet valve diagram showing piston, rod, and cam shaft in *Dyke's Automobile and Gasoline Engine Encyclopedia* (Dyke [1915] 1917, p. 88). Copyright by Goodheart-Willcox. <https://archive.org/details/dykesautomobileg00dyke>, accessed 31 July 2023.

Picabia's early twentieth-century art demonstrates a continuum in which mechanical signs emerged from Cubism that arose, in turn, from an abstracted and highly gendered language of industry. In Picabia's work, mechanical signs merged with, and substituted for, human figures, signifying human motive power and the production of automotive machines. Just as "style" is a way of "communicating a state of mind, an inner tension or emotion by means of signs", according to Picabia (qtd. in Zdenek 1998, p. 9), the machine was "something more than a mere appendix to life." The machine, for Picabia (1915) "had come to be an authentic part of human existence... perhaps its soul." Although he supple-

mented realism and human forms with abstracted machine symbols, they signified human activity, ingenuity, and even the trial and error of experimentation. These machine signs contained elements of both realism and idealism, but they functioned more as signification. Just as in Goux's backed currency model, Picabia deployed these signs to express what he viewed as the most important aspects of the reality he wished to depict—creativity, productivity, and power. The car, for Picabia, was the supreme extension and sign of modern man—the materialization of ingenuity and motive power. Like the advertisers and producers of the automotive manuals of his day, Picabia abstracted automotive forms, using his mechanical language—pistons, gears, and coils—to depict systems of circulation. For Picabia, these forms signaled the generation and transmission of automotive power. More than the mechanical bride explored in his and Duchamp's artistic banter, the industrial rendering of automotive parts and systems served Picabia as a rich repertoire of source material for his many abstractions. Taken within the context of his oeuvre, a work such as *Coil* can be seen to both celebrate and elaborate the disquietude of human and mechanical coexistence and the destabilizing effects of modernity.

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Notes

- ¹ I first noticed this intriguing work in (Rothman 2002). Rothman uses the plural *Coils* in his translation of the image title on page 3.
- ² According to Nesbit (1991, p. 353), technically oriented drawing education became widespread in France with the implementation of the Ferry educational reforms in the late 1870s and early 1880s.
- ³ For the purposes of this article, the following resources on the notion of the cyborg in the early twentieth-century and particularly the Dada imagination have been consulted: (Antliff 2001; Biro 2009). For well-rounded discussions of the various Dada approaches see (Dickerman et al. 2005).
- ⁴ For more on Picabia's Mechanomorphs at Stieglitz's Gallery 291 and in the eponymous journal see (Karmel 2001).
- ⁵ (Camfield 1966, 1970; Dennison 2001). Image in (Dyke [1915] 1917; Hobbs and Elliott 1915). <https://babel.hathitrust.org/cgi/pt?id=mdp.39015066973457&view=1up&seq=110>. Accessed 31 July 2023.
- ⁶ (Camfield 1966, 1970; Dennison 2001). To see Marcel Duchamp's Large Glass see the Philadelphia Museum of Art website: A <https://philamuseum.org/collections/permanent/54149.html>, accessed 31 July 2023; see also the National Portrait Gallery website for a reproduction of Picabia's portrait of writer Marius de Zayas, also known by the text Picabia included in his rendering, *De Zayas De Zayas*: https://npg.si.edu/object/npg_NPG.93.477.D. Accessed 31 July 2023.
- ⁷ (Camfield et al. 2014, p. 327). Image in (Fourcault 1922, p. 17). <https://gallica.bnf.fr/ark:/12148/bpt6k3497734d/f27.item> (accessed on 31 July 2023).
- ⁸ For more on Saussure's linguistic theory, see (de Saussure [1916] 2006). First published, posthumously, in 1916.
- ⁹ There are many volumes that discuss Duchamp's Readymades. For a well-rounded discussions of these within the context of various Dada approaches, see (Dickerman et al. 2005).
- ¹⁰ Many volumes discuss Picabia's love of cars, his dabbling with automobile mechanics, and his automobile collecting. For notable resources see (Camfield 1966, 1970; Dennison 2001).
- ¹¹ For more on Picabia's biography, see Camfield's thorough discussions in his numerous publications, particularly (Camfield 1979) and the *Catalogue Raisonné* (2014).
- ¹² For more on the car in early twentieth-century culture and consciousness see (Wachs 1998), available at: <http://www.fhwa.dot.gov/ohim/womens/chap6.pdf> (accessed on 31 July 2023); and (Sanger 1995), available at: https://scholarship.law.upenn.edu/penn_law_review/vol144/iss2/3 (accessed on 31 July 2023).
- ¹³ For more information on ignition systems, see (Dyke [1915] 1917).
- ¹⁴ For more on information on how pistons work see (Dyke [1915] 1917). The main parts of the piston are the top, which may be called the head or crown, the ring belt, the pin bosses, and the skirt, from which a connecting rod is driven by the explosions reaching the piston.

- 15 (Borràs and Picabia 1985). Picabia also drew inspiration from the Futurist exhibition at the Galerie Bernheim-Jeune, in February 1912. In fact, the term Orphism as applied to Picabia's work describes the blending of Cubist fragmentation and planar construction, Futurist motion, and Fauvist color.
- 16 For the 1913 drawing, see the Metropolitan Museum of Art website: <https://www.metmuseum.org/art/collection/search/488408> (accessed on 31 July 2023). For the 1917 painting by the same title that features decidedly piston-like imagery, see the National Galleries of Scotland: <https://www.nationalgalleries.org/art-and-artists/8581> (accessed on 31 July 2023). Both of these artworks suggest a combined human and machine form, the former more diagrammatic and figural, and the latter more abstractly, with a form suggesting cog and piston components against a golden metallic background.
- 17 For more on Picabia's panting in relation to dancer and actress Stacia Napierkowska, see (Camfield 1979, p. 77). For more on Picabia's use of the word Udnie in the title of this and other of his paintings suggesting dynamic movement, see (Verdier and Kincaid 2013, p. 220). See also (Pierre 2002, pp. 102–10). Pierre argues convincingly that Udnie is an anagram derived from the nom de plume 'Jean d'Udine' used by the music critic and theorist Albert Cozanet. Another possible inspiration for Picabia's painting is discussed in (Dannat 2016). Dannat discusses the findings of (Bone 2016) *The Curse of Beauty: the Scandalous and Tragic Life of Audrey Munson, America's First Supermodel*, in which Bone argues that Munson was the inspiration for Udnie.
- 18 Picabia's drawing is masculine, productive of males, and also feminine, using a female machine and its uncannily biological reproductive eggs. The form poses male and female interaction as (re)productive and possibly destructive, signaling at least the possibility of violence and castration. The label in Picabia's painting indicates these elements conjoin to function as a sexual device, from which what appear to be long, thin, spirals of sperm are projected. Diagonal lines emerge from the bottom of the cylinder in the drawing, rearticulating many diagrams of piston rods. But the bottom of the cylinder-like form is labeled *excès poisons* and appears to function as a hatch from which excess fluids, fish, or perhaps embryonic persons are flushed, the lines of the drawing signifying both the movements and the traces of expulsion.

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