QUESTIONS CONCERNING ARCHITECTURAL MACHINES; OR, PATAPHYSICS IN EARLY MODERN ARCHITECTURE

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to Joyce

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ABSTRACT
The primary contention of this study is that there are ways to orient architecture other than technological concerns. By studying the nature of architectural machines and their changes through history, their reduction to instrumental and aesthetic concerns is shown to be problematic. These aspects have dominated architectural thinking and making since modernity; however, this history also shows the limits and possibilities of these technological concerns. But modernism has not been homogeneous. During this period, the literary and theatrical works of Alfred Jarry and his science of pataphysics offered a significant approach to engage and resist the machine. His work challenged technological practices *through* the machine itself. I explore this relative to the human will, knowledge, and creative practices. Modernist architectural machines by Pierre Chareau, Eileen Gray, and Paul Nelson are then studied with respect to this intentionality. Ultimately, these works attempted in various ways to reconcile poetics and ethics in the design of pataphysical machines for living in.

ABSTRAIT
La thèse principale de cette étude est qu'il existe d'autres façons d'orienter l'architecture en dehors des préoccupations technologiques. Par l'étude de la nature et les modifications aux machines architecturales dans l'histoire, leur réduction à des préoccupations instrumentales et esthétiques se révèle être problématique. Puisque la modernité, ces aspects ont dominé le domaine de l'architecture. Cependant, cette histoire montre aussi les limites et les possibilités de ces préoccupations technologiques. Mais le modernisme n'est pas homogène. Durant cette période, les œuvres littéraires et théâtrales d'Alfred Jarry et sa science de la pataphysique offre une approche profonde à s'engager et à résister à la machine. Son travail défit pratiques technologiques à travers la machine elle-même. L'étude explore ce rapport à la volonté, la connaissance humaine et des pratiques créatives. Cette intentionnalité est également découverte et étudiée dans certaines machines architecturales modernistes de Pierre Chareau, Eileen Gray, et Paul Nelson. Finalement, tous ces «solutions imaginaires» tentative de réconcilier la poétique et l'éthique en la conception de machines pataphysiques à habiter.

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INTRODUCTION:
MACHINES AND PATAPHYSICS: THE STATUS OF TECHNOLOGICAL QUESTIONS IN ARCHITECTURE

> Architecture is, in fact, the *machine* that produces the universe which produces the gods. It does so not fully through theories or reflections, but in the ever non-repeatable and optimistic act of construction. The qualities of its resistance … form an irascible and volatile field whose smile is not that of Buddha.[1]

> Architecture has over the past century finally become a machine.[2]

During a "less precarious" period of Alfred Jarry's troubled life, he spoke of his desire to build "a tower" as a "small legacy" in his hometown of Laval, France, according to the poet Guillaume Apollinaire. "This tower, which he would need to renovate in order to live in, had the peculiar virtue of revolving on its foundations – an incredibly slow movement since the tower took a hundred years to make a complete revolution." This "fantastic story," Apollinaire noted, "started with an etymological myth that confused the two meanings of the French word for 'tower', which can also mean 'to turn'."[3]

Making an architectural machine of this sort would involve mechanics that are improbable but not complex, even in Jarry's day.[4] Although this story may have been contrived by Apollinaire, it places Jarry at the heart of the current project. His turning tower is emblematic of the mechanical hinge between architecture and his science of pataphysics. It is this hinge that is pursued in the following work.

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[1] Daniel Libeskind, statement accompanying his project for the World Trade Center site (2004), Studio Daniel Libeskind, http://daniel-libeskind.com.

[2] Stephen Kieran and James Timberlake, *Refabricating Architecture: How Manufacturing Methodologies are Poised to Transform Building Construction* (New York: McGraw-Hill Professional, 2003), xiii.

[3] Guillaume Apollinaire, "Feu Alfred Jarry," *Les Marges* 23 (15 Jan. 1922): 26.

[4] It would be a few more decades until this project was realized as Villa Girasole in the countryside outside Verona, Italy. It was built between 1929 and 1935 by the Italian engineer Angelo Invernizzi, in collaboration with the architect Ettore Fagiuoli. The lower portion of the house is a podium buried in the hillside. The upper portion of the house is set on railroad bogies and revolves 360° on a central pivot set into a concrete foundation. The name Girasole refers to *il girasole*, which is Italian for 'sunflower'; and/or to *gira* or *girare* 'to turn', 'to travel', 'to go around', and *sole* 'sun' or 'sunshine'. Villa Girasole revolves once every twenty-four hours, instead of every 100 years, as Apollinaire suggested.

I am not the first person to discuss the connection between pataphysics and architecture; that was the writer René Daumal. Others have followed, including Le Corbusier, Eileen Gray, Marco Frascari, Alberto Pérez-Gómez, Louise Pelletier, Alice Gray Read, and Neil Spiller. Still, in architectural circles Jarry's science is hardly known, let alone properly understood, beyond some of these individuals. Building on their studies, this is the first sustained examination of the mechanical hinge between pataphysics and architecture. It is also the first to use pataphysics to interpret selected modernist architectural machines and to place them in a broader historical context (see fig. 0.1).

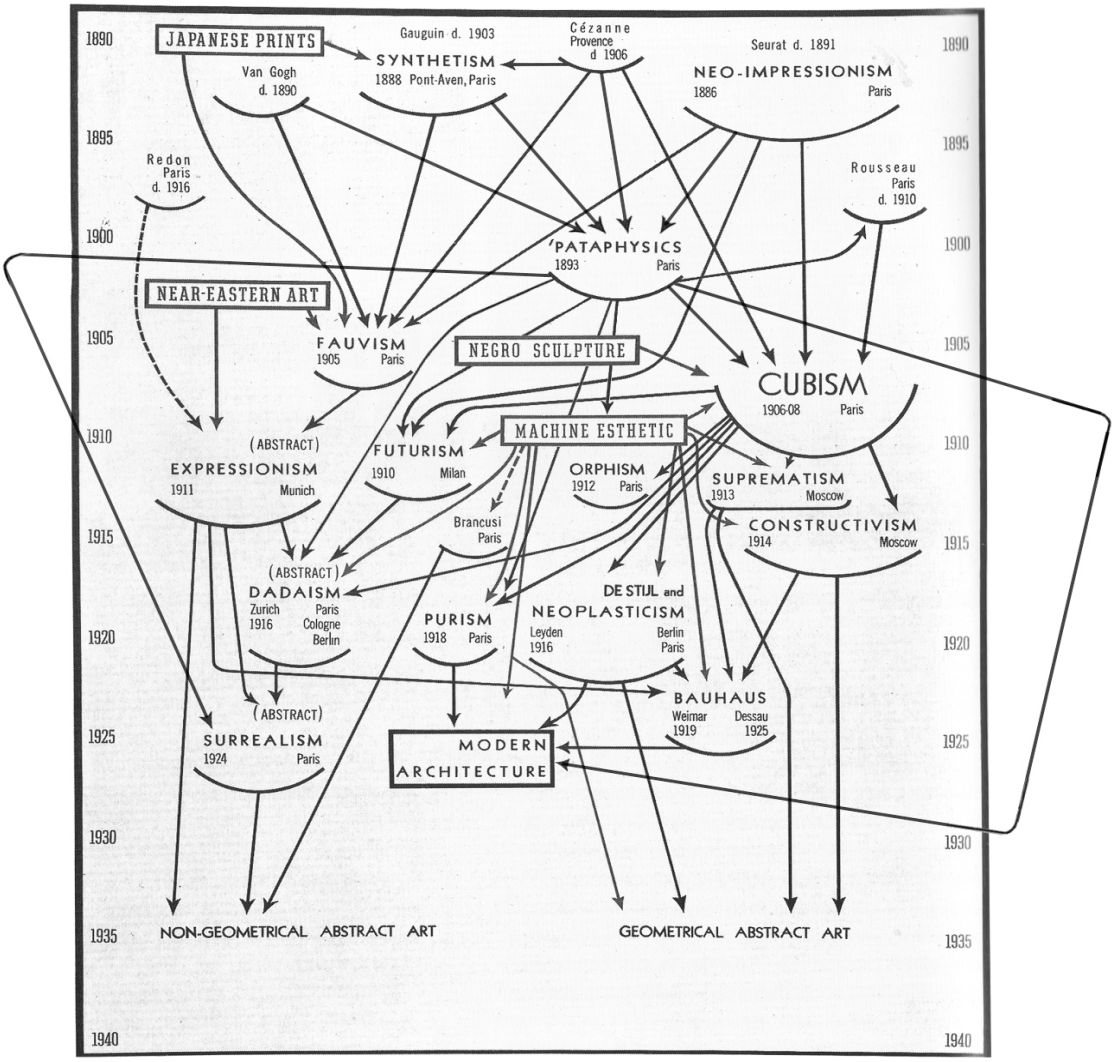

Fig. 0.1: Diagram showing influences of pataphysics

Architecture was never a protracted subject of investigation for Jarry, but he frequently wrote about machines. He even placed them on the stage. To most Jarry scholars, his machines were not architectural, but, as I will show, they make a substantial contribution to the long-standing tradition of architectural machines. Seeing Jarry's machines in this new light also opens up his larger body of work to architectural discourse.

Architects in the West have been infatuated with the machine for longer than most people realize. Throughout history, the machine had been the purview of the architect, but with its growing instrumentality and its migration towards engineering, the imaginative tradition of the machine declined. A more careful examination, however, will show that this tradition actually survived on the margins and raised new questions about how imaginative machines can be construed and constructed in the present.

This is particularly important in today's fragmented society, which is already conditioned by technology. In fact, it seems that more faith is now being placed in the architectural machine as a mode of inquiry.[5] During our digital age, an interest in the machine may seem like nostalgia for a bygone era, but its role in architecture today is no less salient. Approached properly, it can challenge conventional boundaries of the architectural profession and enrich impoverished conversations in certain sectors of the discipline.

One can easily point to examples of the machine's capacity for belligerent destruction and its role in the global homogenization of modes of living, thinking, and making. It has also promoted inequality, catastrophes, and violence. At a larger scale, and to an unprecedented degree, Western society has witnessed its enormous impact on the production, handling, and consumption of energy, resources, information, money, and power. Without a critical awareness of the impact of the machine, significant social, political, and cultural practices could be placed in jeopardy, unable to resist its forces. Uncritical beliefs are still common: for example, in KieranTimberlake's naïve declaration

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[5] See Kieran and Timberlake, *Refabricating Architecture*; C.J. Lim, *Devices: A Manual of Architectural + Spatial Machines* (Oxford: Architectural Press, 2006); Bob Sheil, ed., *Protoarchitecture: Analogue and Digital Hybrids* (London: John Wiley & Sons, 2008); Neil M. Denari, *Gyroscopic Horizons* (New York: Princeton Architectural Press, 1999); and Wes Jones, *Instrumental Form: Designs for Words, Buildings and Machines* (New York: Princeton Architectural Press, 1998).

that the advancement of instrumental machines lets "architects, constructors, and clients reap the [machine's] rewards."[6]

Although there are compelling reasons for technophobia, machines have an almost magical ability to produce results, collapse distance, and transform the world. It would be hard to imagine life without the physical, constructive, and logistical capacities of machines. They can grant nearly any desire: from the extraordinary – an immense research station in orbit around a distant star – to the mundane, assisting an architecture student with studio work. Their spectacular feats are obvious, but on a deeper level they are also a response to our finitude. They have become *the* bastion to resist human mortality. To many, the machine is the very measure of progress and a sign of a brighter future. Indeed, technological progress – especially in the field of medicine – has aided many people, and without it others would have been hurt. I myself would not be alive today without the intervention of medical machines. Faith in the machine has led to its uncritical promotion. Still, it is doubtful that the machine alone can build a truly humane society.

Throughout history, the machine has not necessarily been understood as a mechanism with meshing gears and grease. Its nature has been disguised under a series of masks, including the streamlined coverings in the 1930s and the hidden processes of more recent information technology.[7] Whether literal or figurative, visible or hidden, the machine has become a projection of technology.

"Technology," Lorenzo Simpson argues, "can be viewed as that constellation of knowledge, processes, skills and products whose aim is to control and transform."[8] It is driven by technological imperatives that reach ever deeper into social and symbolic

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[6] Kieran and Timberlake, *Refabricating Architecture*, xiii.

[7] I am following philosopher Albert Borgmann's idea that "information technology is currently the prominent and most influential version of the device paradigm." Albert Borgmann, *Holding onto Reality: The Nature of Information at the Turn of the Millennium* (Chicago: University of Chicago Press, 2000), 352. He argues that "device paradigm" is a fundamental aspect of our technological oriented society. Its aim is efficiency as it separates the good it delivers from the contexts and means of its delivery. As an example, Borgmann refers to the heat from a modern furnace, which appears almost miraculously from discreet sources in a room. Unlike a furnace, an old wood stove was the focus of a room. The first requires almost no knowledge of its workings, whereas the second demands labour and knowledge to sustain it.

[8] Lorenzo C. Simpson, *Technology, Time and the Conversations of Modernity* (New York and London: Routledge, 1995), 70.

practices. A machine need not be a readily available artefact such as a toaster, a bicycle, or an airplane, nor even a tool at one's disposal. It can be much more subtle, pervasive, and, in many cases, banal. It can be beneficial, but also unnerving. The machine permeates nearly every human pursuit, not just productive activities. Even radical critics who reject it or try to escape from it – for example, Ted Kaczynski, the Unabomber – are already sodden in it. Our acceptance of machines was fostered during the "pre-industrial" era and has become more prevalent in modernity. Unless one has been raised by wolves in a remote location, machines are an intrinsic part of one's life.

This technological imperative has left architects to operate narrowly between two poles: functionalism and aesthetics. By studying the changing nature of architectural machines through history, however, we can discern the limits of these poles. In Alfred Jarry's science of pataphysics we can also recognize an alternate concept of machines, with possible implications for architecture. This alternative, I will argue, challenges instrumental practices of the machine *through* the machine itself.[9]

CONTEMPORARY ARCHITECTURAL MACHINE(S)

In almost every period throughout history, the machine has been involved in debates about the relation between art and nature, including questions about the role of humanity in the world. More specifically, they broach questions about the role of architecture in the world. The machine has taken on different forms in response to changing historical concerns. This is still evident in architecture today. The contemporary architectural manifestation of the machine is most striking in the fields of sustainability and computation. In both, the machine typically promotes functional solutions, aestheticism, or a combination of the two.

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[9] In other words, "salvation" comes from being itself – technology – not as a phenomenon or a technological solution to a technological problem (e.g., ecology) but as an essence. Thinking beyond the appearances of technology (machines, computers, etc.), "one can then see anew the difference of being and beings and man's belonging to being. Thus technology is not what saves because it is miraculously transformed, nor is it even the thought of its essence that saves; what saves is the fact that *through* Technology man is appropriated to being, reunited with a unique and total destiny. *Through* Technology man is reconnected and once more linked with the whole History of being since the Greeks." Michel Haar, *The Song of the Earth: Heidegger and the Grounds of the History of Being*, trans. Reginald Lilly (Bloomington: Indiana University Press, 1993), 89. My emphasis.

Sustainability in architecture has come into vogue during the past two decades for reasons that are becoming more apparent. This new emphasis has become an easy response that sidesteps the more difficult ethical issues of late modernity, including questions about the architect's role in society. Sustainability has provided architects with a new vehicle to pursue their traditional concern for life-sustaining practices; however, ideas of environmental stewardship are becoming reduced to prescriptive techniques for optimization and a fine-grained functionalism.[10] Once again, buildings are conceived as instrumental mechanisms.[11] These practices emphasize factors such as geographical orientation, transportation of resources, material and chemical properties, and embodied energy. Although these practices may be virtuous in their own area, they lack a deeper ethic: for example, a critique of materialism, a cultivation of a deeper sense of well-being, and a commitment to culture. These ethical ambitions could be pursued by preserving traditions and language or by devising imaginative practices for our short-term and long-term future. Instead, sustainability is guided by contrived rating systems that mesh with public relations campaigns. In these circumstances, the role of architecture is reduced to "adding pleasure and delight to life."[12] This is hardly different from the hedonistic value system that was advocated two centuries ago by J.N.L. Durand.[13] If this indeed were the goal of architecture, its cultural legitimacy would be exceedingly hard to defend.

One such value system is articulated in William McDonough and Michael Braungart's environmental vision, in which people behave like communal "leaf cutter ants" and architecture performs like a "cherry tree."[14] This concept is much too

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[10] See United States Green Building Council: http://www.usgbc.org/DisplayPage.aspx?CategoryID=19.

[11] "Imagine cars," William McDonough and Michael Braungart implore, "designed to release positive emissions and generate other nutritious effects on the environment. The car's engine is treated like a chemical plant modelled on natural systems." This is certainly a clever idea; however, the car's relationship to the world, like the architecture they propose, is no less instrumental. William McDonough and Michael Braungart, *Cradle to Cradle: Remaking the Way We Make Things* (New York: North Point Press, 2002), 179.

[12] Ibid., 173.

[13] J.N.L. Durand, *Précis of the Lectures on Architecture*, trans. David Britt (Los Angeles: Getty Research Institute, 2000), 84–6.

[14] McDonough and Braungart, *Cradle to Cradle*, 72–7. The authors' pastoral examples are really a form of bio-determinism with a technological attitude. This pervades much of their conversation.

idealistic.[15] Historically, value systems were centred on divinities or perhaps heroes, but, as Paul Ricoeur reminds us, "We don't seem to believe in these intermediaries any more."[16] Since the rise of modernity in the seventeenth century, we have posited our own principles; however, they can be slippery. As Groucho Marx quipped, "Those are my principles, and if you don't like them … well, I have others." When architects receive a commission from an automobile manufacturer, an energy distributor, or some other corporation, can they be sure that their designs do not unwittingly strengthen those who are already powerful? Although wasteful buildings are not the answer, functional optimization seems equally short-sighted.

One wonders whether architects can take on paid work and be critical at the same time. As Joseph Rykwert notes,

> Since what he [the architect] does always involves comment, he cannot pretend to undertake morally or politically distasteful commissions without using his skill to thwart or condemn the working of that institution which he will attempt to house. In fact, I would go further and say that since the built artifact comments upon the establishment in the act of housing it, only a cynical attitude to his work would permit the designer to feel himself free to comment negatively on an institution he is helping to shelter.[17]

In a pure world I would side with Rykwert, but it is hard to believe that there are institutions and clients that do not warrant criticism. It is also hard to imagine clients and architects sharing the same position.[18] If this were true, what choice would an architect have? What would be the role of an architectural machine?

A more direct attempt to reconcile the functional and aesthetic poles of the technological agenda is evident in Patrik Schumacher's call for "parametricism." Schumacher is a partner at Zaha Hadid Architects, as well as its philosophical voice. His

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[15] Can one be sure that their model of the cherry tree is as pastoral as it first seems? For example, was the tree genetically modified, chemically assisted, and supported by highly mechanized practices?

[16] Paul Ricoeur, "The Creativity of Language," in *Dialogues with Contemporary Continental Thinkers: The Phenomenological Heritage*, ed. Richard Kearney (Manchester: Manchester University Press, 1984), 31.

[17] Joseph Rykwert, "The Necessity of Artifice," in *The Necessity of Artifice* (New York: Rizzoli, 1982), 59.

[18] "The problem today is the apparent impossibility of unifying world politics, of mediating between the polycentricity of our everyday political practice and the utopian horizon of a universally liberated humanity." Ricoeur, "The Creativity of Language," 31.

article "What Style is That?" promotes the development of "parametricism" as a new style.[19] Writing for a general audience, he describes the basic premises and intentions of calculative thought and production, expressing a renewed faith in technological idealism.

"Parametricism" is a computational design technology that enables digital models to represent building elements and functions dynamically. In architectural practice, these models are meant to coincide directly with the built world, simplifying subsequent building construction. The generation of a parametric model relies on numbers, algorithms, and formal geometries to produce three-dimensional spatial relationships. Its various parameters and constraints can be fixed or varied, so that different inputs cause different repercussions throughout the model. It can be programmed to respond to many different criteria, such as weather data, views, setbacks, code restrictions, program areas, massing, structure, and materials. These inputs engender a complex network of numerical "relationships"; however, these relationships are not equivalent. What Schumacher is arguing for is mechanistic at best. This process is like a machine for making machines.

According to Schumacher, parametric design attempts to unify diverse voices at various scales for the sake of "cumulative progress," as opposed to "contradictory efforts."[20] For instance, a designer can link urban elements to physical construction details so that "everything" forms a complex causal web. This process can be exported anywhere in the world, as parametrics' application seems "universal." Although he is correct that its applications are broad, his assumptions are problematic. The parameters of a project may be linked through "relationships" but are hardly more than mechanistic. Virtually everything is determined in advance; nothing is left to chance. In other words, he overlooks the contingent nature of his practice and its broader cultural impact. Parametricism disregards the particularities of a project, place, or circumstance. It is a naïvely progressive and homogeneous method to justify rather than situate a work.

Design for Schumacher has been reduced to information and, by extension, mere "know-how." The parametric process that purports to deal with many different

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[19] Patrik Schumacher, "What Style is That?," *The Architect's Newspaper* (2 June 2010): 22.
[20] The problem is that his reading of history is contrived. He speaks of the "developmental role" of history: a progressive reading in which a new design paradigm overtakes the preceding paradigm. Style is a "design research program," Schumacher proposes, "conceived in the way that paradigms frame scientific research programs." Schumacher, "What Style is That?," 22.

parameters never situates itself among those parameters. Even if Schumacher realizes that parametricism is not a neutral process, he promotes this belief because it provides the ground from which figures appear. In essence, he substitutes one instrumental process for another of greater magnitude. Like many earlier instrumental machines, this system accepts only what can be put into it. Again, this machine is hardly different from the instrumental agenda that was established for architecture several centuries ago by Claude Perrault and then developed by J.N.L Durand, except that Perrault was aware of the cultural role that architecture might play.

Like the instrumentality that Durand promoted, parametricism is based on a particular understanding of the world. Schumacher's aesthetic premises are problematic because they are hidden behind dynamic, functional parameters. By setting up constraints and relationships, the responsibility of choice is mitigated. Why, for instance, does his complex flow of input and output always result in a fluid, "dynamic" skin over a rectilinear structure? I suspect that this is merely a negotiation between two poles: a technological agenda and a desire for seductive images. Although this "dynamic" process includes temporal factors, it may be just as objective and exclusive as "non-dynamic" design processes.

As I have started to argue, the functional and aesthetic poles of technology offer ways of thinking and making that are useful, but narrow. We may wonder whether products of such a practice can ever engender a significant alternative to the categories it propagates. Is it still possible to make something that is enriched by the imagination and is also participatory? Can our practices recognize not just mathematical parameters but also the body, language, and our mortality?

A NOTE ON HISTORICAL INQUIRY

> To understand the world and to change it are fundamentally the same thing.[21]

By studying the machine, it will become clear that there is a need to expose the limits of technological practices and to explore other ideas. This is crucial if architectural machines will continue to have any significance for society beyond technological

[21] Paul Ricoeur, "Naming God," *Union Seminary Quarterly Review* 34 (1979): 215–27.

imperatives. I propose that one approach is to examine the machine tradition in architecture. As I will discuss in the first chapter, this tradition reaches back to Vitruvius, for whom it was part of a broader agenda, not just the application of mechanical power. Although the role of the machine in architectural history has been reduced and marginalized due to associations with fashionable styles, toys, and the ruminations of science fiction, there is richness and wisdom in this tradition.

To reveal this richness and give it a more precise direction, I will consider the history of the machine as a guide for human action. Historical inquiry is an essential part of this study because the machine is not just a technological artefact; it is woven into the history of ideas. By looking at the history of the machine and its relation to the world, I intend to show its cultural and socio-political specificity for groups and individuals who addressed issues that were meaningful in their time. These issues shaped their practice and their practice shaped them.

To state my philosophical orientation broadly, I am not engaging in historical inquiry to reconstruct the past for its own sake, like an antiquarian. Instead, I am pursuing questions that may have a significant bearing on our shared experience of the present, guided by issues from phenomenology and hermeneutics.[22] Although I am interested in finding ways to shape and re-shape practice, I do not condone applying existing ideas in an uncritical fashion. I am seeking a practice that relies on a critical position and proceeds with sensitivity. To do this properly, I believe it is important to recognize that human understanding is nested in historical and cultural horizons of meaning. Such a horizon, Hans-Georg Gadamer argues convincingly, is not a barrier; it is rather an enabling condition. There is no universal position from which one can have an unobstructed view of everything. Within this horizon, we recognize our historical constitution.

This historical stance counters the technological enterprise. To think about the past in progressive technological terms would neglect its sophistication and wisdom,

[22] "What then does philosophy have to contribute to architecture and to architectural education? In one sense very little: no clear direction; perhaps a few pointers; mostly questions; putting into questions presuppositions of our approach to architecture that are often take for granted and thereby opening up new possibilities. But by putting into question maps on which architects and architectural theorists have long relied and which have been the source of continuing confusion, philosophy can contribute to the drawing up – inevitably tentative – of new maps." Karsten Harries, *The Ethical Function of Architecture* (Cambridge, MA: MIT Press, 1997), 12–13.

while privileging our present way of thinking: for example, regarding alchemy as an embryonic form of chemistry. This would dismiss all that is non-technological, including the poetic, ethical, and political dimensions that have been crucial to architecture since people gathered around a fire in a clearing. Instead, my approach to the past is a form of "reading." It does not abandon the "true sense of the text" and seek, as in the method proposed by Perrault, "the truth of that which the text deals."[23] Perrault's method reduced history to fact checking, with little regard for the significance of the subject or the question "why?" My approach attempts to get closer to the intent of the "author," whether Alfred Jarry, Eileen Gray, or the makers of the various architectural machines I will address.

WHY THE MACHINE?

The architectural machine has been an active protagonist in society. "The machine," Jacques Ellul argues, "is the most obvious, massive and impressive example of technique."[24] Therefore, it is a good point of entry for questions about technology and architecture. Throughout most of its history, the machine has participated in a wide range of endeavours: from noble scientific knowledge to the ignoble activities of labourers. The ambivalence of its position has raised some difficult philosophical questions. I will touch on some of these issues by studying the machine across a long time span and by focusing on particular examples.

In the first part of the study, the architectural machine is recognized as an expression of technique but also situated within a complex culture. Prior to the nineteenth century, the machine operated in various historical situations in which it was not strictly instrumental. I have chosen to present this historical range by proceeding from the past to the present. This is not intended to suggest a degrading or progressive reading of the past. As will become evident, the architectural machine in history has been both an index and an agent. It has been influenced by discoveries and knowledge; in turn, it has shaped and

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[23] Claude Perrault, *Ordonnance for the Five Kinds of Columns after the Method of the Ancients*, trans. Indra Kagis McEwen (Santa Monica, CA: Getty Publications, 1993), 57.
[24] Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Alfred A. Knopf, 1970), 3.

challenged that knowledge. The architectural machine cannot be defined in an absolute way, due to its changing nature and contexts. It has been literal, figurative, and sometimes both.

By studying tangible examples, I will address specific questions and their ramifications in architectural discourse. Much of this exploration is textual, as the examples are drawn from literature. Although literary theory occasionally has influenced architectural thinking, issues of literary theory will remain outside the scope of my project and will not be addressed.

My study, however, does presume that the written word is meaningful, and necessarily ambiguous. This meaning can be conveyed, interpreted, understood, and acted upon. A text – whether a traditional architectural treatise, marginal literature, or theatrical writing – can promote understanding and action. Scholars, like architects, do not live in a vacuum but range across disciplinary lines. The machine in its various forms has interacted with diverse creative efforts, including literature.

These historical studies of architectural machines frame my investigation of the imaginative machines of Alfred Henri Jarry (1873–1907). Jarry was a French poet, dramaturge, and artist who created a number of literary and theatrical works at the *fin de siècle*. Machines populate many of his major works and are paramount to his science of pataphysics. Although his work is often regarded as a hoax, I insist that it is more profound.[25] The second half of my study is an exposition of Jarry's work, as a lens for understanding other architectural machines in the early modernist period. Jarry's work can help unpack their potential and uncover ideas that may be controversial but should be heard.

At the same time, I have tried to learn from Jarry's mode of delivery. He was critical of dogmatically sombre writing. While I recognize that this is a formal dissertation, I have consciously chosen to intersperse short phrases and sections that are more colloquial. I trust that a lighter tone in certain areas will not be detrimental to my intentions. In fact, some informality and light-heartedness may actually get closer to the spirit of Jarry.

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[25] "I read up on 'Pataphysics and yell contemptuously in the lamplight 'T'sa'n intellectual excuse for facetious joking,' throwing the magazine away, adding 'Peculiarly attractive to certain shallow types.'" Jack Kerouac, *Big Sur* (New York: Penguin Books, 1992), 181.

STRUCTURE OF THE WORK

The first chapter describes architectural machines in various periods of Western history. Jarry would have been familiar with a number of the people discussed in this chapter. I include others to provide a more well-rounded understanding of each period. This chapter discusses the machine's nature, capacities, and status as it related to wonder, knowledge, and the human will. Some of these issues anticipated the technological practices that Jarry later adopted and challenged.

In the second chapter, I look at the machine in architectural modernism. It describes how the imaginative machine was reduced to an aesthetic object in various arts, primarily literature. It also describes the role of the machine in the mathematization of practice.

In the third chapter, I consider how pataphysics orients the mechanical works of Alfred Jarry. Although this topic is familiar to scholars of Jarry's work, it has not been pursued philosophically in relation to architecture. I consider this question after debunking the avant-garde myth of Jarry's *Ubu Roi*. By taking seriously the issues that Jarry poses, we can gain a better understanding of his machines, as well as the machines designed by certain architects. To recognize the fundamental relation between these machines and the world, I examine their "bearing," instead of their functional or aesthetic aspects.

In the fourth chapter, I look at Jarry's concept of creativity by delineating a theory of pataphysical creativity in relation to the machine and vice versa. This chapter touches on *ingenium*, metaphor, monsters, synthesis, and the roles of history and humour in his work. These themes are pursued in architectural works such as Maison de Verre, E.1027, and La Maison Suspendue.

The orientation and theatrical aspects of *Ubu Roi* are the subjects of the fifth chapter. I shift to theatre at the end of my study because it is paramount to Jarry's literary machines. He used theatre to frame human action – a responsibility that is shared by both theatre and architecture. This chapter addresses his ideas on abstraction, suggestion, embodiment, and eros. Again, these themes are pursued in architectural works by Pierre Chareau and Bernard Bijvoet, Eileen Gray, and Paul Nelson.

Finally, in the postscript I draw lessons from the historical and theoretical study of the machine to make a case for a design pedagogy rooted in Jarry's pataphysics. The aim of this section is to challenge technological modes of delivery that breed unthinking professionals. I believe there are better ways to teach, recognizing the fullness of the discipline of architecture and its alliances.

CHAPTER 1:
A SELECT HISTORY OF ARCHITECTURAL MACHINES

> A straightforward perspective on the present cannot suffice to grasp what we call technology. … In order to grasp *Wesen* one's perspective must bi-furcate, or transform itself into a perspective on the past-present.[1]

The fortunes of the architect have been tied to the machine for some time. Indeed, it was Vitruvius who slid it firmly into the rear of our métier (see fig. 1.1). At that time, during the reign of Caesar Augustus, he positioned it as one of the three parts of the body of architecture: building, the construction of clocks, and "the principles of machines." These, he argued, are "most useful in times of peace and war."[2]

Fig. 1.1 Archimedean screw

He defined the machine as "a continuous material system" and divided it into *machinae* and *organa*. This separation already seemed to imply the efficiency of instrumental technology, as Vitruvius carefully considered the number of workers needed to operate these machines.[3] In doing this, he focused on the machine's constructive properties and took for granted the ritual practices that "in-*augur*-ate" a work. There was no need for

[1] Michel Haar, *The Song of the Earth: Heidegger and the Grounds of the History of Being*, trans. Reginald Lilly (Bloomington, IN: Indiana University Press, 1993), 79–80.
[2] Vitruvius, *On Architecture*, trans. Frank Granger (Cambridge, MA: Harvard University Press, 1970), 10.16.12.
[3] Indra Kagis McEwen, "Instrumentality and the Organic Assistance of Looms," in *Chora: Intervals in the Philosophy of Architecture*, vol. 1, ed. Alberto Pérez-Gómez and Stephen Parcell (Montréal and Kingston: McGill-Queen's University Press, 1994), 125.

him to speak to this issue because auguries and omens were accepted premises in his Roman context. They were as common as drawing a breath. Titus Livius asked, "Who does not know that this city was founded only after taking the divinations, that everything in war and in peace, at home and abroad, was done only after taking the divinations?"[4] Scholars and architects are prone to overlook auguries, or to mention them only in passing, in favour of functionalist readings that misconstrue the real import of these works during their time.[5] A functionalist reading would subject the ancient machine to a positivist light and judge it according to whether it has reinforced or hindered our current scientific paradigm. Using modern assumptions to understand ancient machines would be anachronistic because, as we shall see, symbolic properties of the machine have been abandoned only recently.

Traces of the machine's fuller bearing became evident when Vitruvius explained that they are "moved by appropriate revolutions of circles, which by the Greeks is called *cyclice cinesis*."[6] Disclosed in the "revolutions of the universe," the circles of the machine depended on this order, as "all machinery is generated by Nature."[7] His statement assures us that machines are not merely a mechanical system. The machine rather *allows* the regular, perfect coherence of the cosmos to appear. Its symbolic role was similar to that of a labyrinth or a classical theatre.[8] The mimetic correspondence between the supralunar and sublunar worlds was brought forth and recognized through making. Still, this wilful undertaking was not intended to dominate and possess nature, nor could it, because something at the heart of the action remained unknowable. Aristotle explains, "Art dwells with the same objects as chance … chance is beloved of art and art of chance."[9] This means that it was not fully willed and therefore remained enigmatic.

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[4] Livy, *History of Rome*, trans. B.O. Foster (Cambridge, MA: Harvard University Press, 1926), 6.41.
[5] For an influential though primarily functional reading see A.G. Drachmann, *The Mechanical Technology of Greek and Roman Antiquity: A Study of Literary Sources* (London: Hafner Publishing, 1963).
[6] Vitruvius, *On Architecture*, 10.1.1.
[7] Ibid., 10.1.4. "Nature" is rooted in Pythagoreanism and Stoicism's natural theology.
[8] McEwen, "Instrumentality," 129.
[9] Aristotle, *Nichomachean Ethics*, trans. Rev. P. Wicksteed and F.M. Cornford (Cambridge, MA: Harvard University Press, 1937), 199a7.

Dalibor Vesely adds, "Because *tyche* [fortune/human affordance] is inscrutable to our intelligence, *mimesis* is equally so."[10]

During this time, the heavens were wedded to the earth in a mimetic manner that recognized the enigma of fortune. Fortune was evident also in the mathematics and geometry of mechanics. In *The Mechanical Problems*, a Pseudo-Aristotelian text that treats mechanics as a branch of mathematics, simple machines – the lever, wheel, inclined plane, wedge, and screw – are carefully described. Pappus also catalogued the five simple machines and argued that all five can be reconciled to the motions of the balance or lever. For Pseudo-Aristotle they were also based on the properties of the circle. The circle was not a neutral geometric figure drawn in homogeneous space; it was a paradoxical and even mystical figure, composed of a single line with no beginning or end. Still, the circle was not infinite in our contemporary sense because it was generated by the play of contraries. It was a line defined by one point that abides and another that moves. It was simultaneously convex and concave. Pseudo-Aristotle explained that, when moving, it resolves two opposite motions in a geometric manifestation of *coincidentia oppositorum*. According to Marcel Detienne and Jean-Pierre Vernant, this Aristotelian text presented:

> instruments which make possible a reversal of power such as that which is characteristic of *metis*, or – to use the author's own terms – which enable the smaller and weaker to dominate the bigger and stronger. He explains this amazing effect of the "machines" which human ingenuity uses, by the properties of the circle: … it [the circle] appears as the strangest, most baffling thing in the world, *thaumasiotaton*, possessing a power which is beyond ordinary logic.[11]

The Aristotelian author contended, "Artificers therefore perceiving this [admirable] nature of the circle have fabricated certain machines in which the circles that are the principles of the motions are latent, in order that what is wonderful in the

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[10] Dalibor Vesely, "Architecture and the Question of Technology," in *Architecture, Ethics, and Technology*, ed. Louise Pelletier and Alberto Pérez-Gómez (Montréal and Kingston: McGill-Queen's University Press, 1994), 33.

[11] Marcel Detienne and Jean-Pierre Vernant, *Cunning Intelligence in Greek Culture and Society*, trans. Janet Lloyd (Atlantic Highlands, NJ: Humanities Press, 1978), 46.

mechanism may alone be apparent, but that the cause may be immanifest."[12] This sense of deception will become crucial to later generations, including Alfred Jarry's.

A similar sense of bewilderment was expressed in the work of Hero of Alexandria. He understood mechanics as "shifts, devices, wiles" and potentially "deceitful" because they produce appearances that did not match the *habits* of reality.[13] Experience leads us to understand that water has a proclivity to move downwards. When a machine moves water uphill, it violates that habit. This machine therefore was able to overturn the natural order of things (see fig. 1.2). Hero, like the Aristotelian author, was fully aware of this contrivance, but decided to "hide" [*kryptô*] its mechanical cause by making it "invisible" [*aphanês*] to the audience. This gap between cause and appearance incited wonder. To Hero, wonder and utility were inseparable forms of knowledge, with mechanics providing an outward demonstration [*apodeixis*].[14] To Aristotle, on the other hand, knowledge [*episteme*] could surpass the initial state of wonder and lead one out of ignorance. Wonder sparked philosophizing. It also made one seek a first-order cause at the root of the mechanics. He offered several examples of wonder: a person being astonished by solstices, the incommensurability of the side and the diagonal of a square,

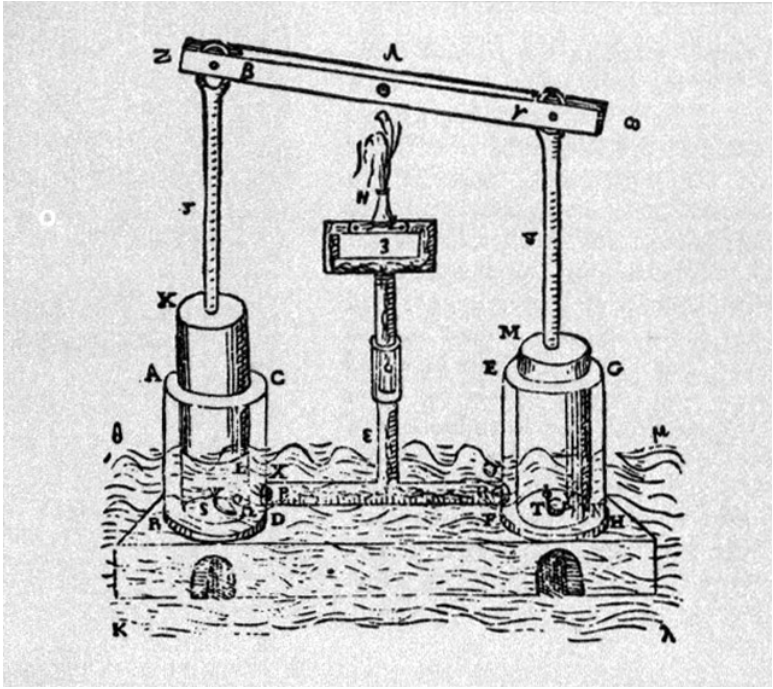

Fig. 1.2 Pump by Hero of Alexandria (first century C.E.), following Ctesibius.

[12] *The Mechanical Problems* [attributed to Aristotle], *The Works of Aristotle*, vol. 23, trans. Thomas Taylor (Somerset, England: Prometheus Trust, 2003), 497.
[13] The term "habit" is used here to suggest that nature (*physis*) was not understood as having immutable laws until perhaps the eighteenth century.
[14] Karin Tybjerg, "Wonder-making and Philosophical Wonder in Hero of Alexandria," *Studies in History and Philosophy of Science* 34 (2003): 443–66.

and – most importantly for us – automatons with mechanical workings that one cannot readily grasp. Enigmatic machines, in both accounts, were associated with the "cunning intelligence" [*metis*] of Daedalus, "a propitiatory power or practical cleverness to overcome the obstacles that manifest a disorder of the world."[15]

As may already be apparent, ancient technicians did not have the same goals as modern architects or engineers. This is a crucial difference between then and now. Machines of today are apt to focus on functional directives. "In an almost complete reversal of modern values, utility *per se* and divorced from higher considerations of virtue, remains the least important of the arts and sciences, even below recreation."[16] In other words, ancient machines typically were oriented towards mythical, divine, or symbolic goals. Applying modern assumptions to ancient situations would place too much weight on properties that were less important to them. Preconceptions from modern science and technology may obscure our understanding of "contingent" aspects that were emphasized in ancient works.

This is clear in discussions of catapults, which were fairly widespread in antiquity. As Serafina Cuomo notes, modern physics believes that a weapon's impact is what damages a defensive fortification, leading modern scholars of the catapult to assume that the ancients also emphasized the damaging impact of a projectile during warfare.[17] Philo of Byzantium's *Belopoeica* contradicted this modern bias. He placed greater value on the range of a projectile, even though he understood the reciprocity between its range and its impact. The history of the catapult illustrates another difference between ancient and modern beliefs. Ancient catapults did not develop in a single, progressive fashion. When a new type of catapult was devised through trial and error, or by chance, it did not eclipse the "less advanced" versions. Various versions co-existed – not because of an "ideological blockage" that hampered their ability to conceive the world in modern and

[15] Alberto Pérez-Gómez, "The Architect's Métier," *Section A* 2, no. 5/6 (1985): 12.
[16] Elspeth Whitney, "Paradise Restored: The Mechanical Arts from Antiquity through the Thirteenth Century," *Transactions of the American Philosophical Society* 80, no. 1 (1990): 32.
[17] Serafina Cuomo, *Technology and Culture in Greek and Roman Antiquity* (New York: Cambridge University Press, 2007), 54.

fully technological terms.[18] In fact, the ideological blockage is our own because we often fail to see agendas that do not align with our current views.

The ancients believed that a machine's capacity depended partly on its visual impact, "as if appearance was an integral part of efficacy."[19] An impressive display of wood, a glimmering of metal, and even the sheer size of a machine could produce wonder and terror in the eyes of an opposing force. This was particularly important when victory could be achieved by tactical positioning rather than bloodshed.

These ancient machines were associated with knowledge and the growing capacity of the human will, ultimately anticipating modern technique.[20] Their operation also could extend beyond their immediate circumstances. Local devices, whether functional or symbolic, were employed to understand the distant movements of the celestial sphere. Aristotle took a step in this direction by conceiving mechanics as a more physical kind of mathematics.[21] Like mathematics [*mathema*], this technical knowledge [*techne*] could be partially divorced from the particularities of a situation. A machine such as a water wheel was a "contrivance" that depended on natural forces of rushing water but also was freed from nature because it converted those forces into different forces for other ends. Jean-Francois Lyotard describes this conception of the machine as a "trap … to catch the forces of nature."[22] The machine became partially "emancipated" from the habits of nature but still relied on their mythical or divine sources.

A machine such as a lever could play a wondrous trick by making a weak person seem much stronger. This notion that the weak could overcome the strong was also a common description of the Sophists' *techne* – a concept that would continue to motivate machines such as Jarry's. Like an ingenious machine, the Sophists' equivocal

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[18] For instance, see Guy Allard, "Les arts mécaniques aux yeux de l'idéologie médiévale," in *Les arts mécaniques au moyen age* (*Cahiers d'études médiévales* 7), ed. Guy Allard and Serge Lusignan (Montréal: Bellarmin; Paris: J. Vrin, 1982), 15.
[19] Cuomo, *Technology and Culture*, 54.
[20] "Only in the work of the Alexandrian engineers, especially Heron, is there any evidence of interest in the instruments and machines as such, and only here was their construction undertaken with an attitude that we can describe as truly technical." Detienne and Vernant, *Cunning Intelligence*, 295.
[21] Aristotle, *Metaphysics*, trans. Hugh Tredennick (Cambridge, MA: Harvard University Press, 1979), 1078a.
[22] Jean-François Lyotard, "Considerations on Certain Partition-Walls as the Potentially Bachelor Elements of a Few Simple Machines," in *Le macchine celibi / The Bachelor Machines*, ed. Harald Szeemann (New York: Rizzoli, 1975), 98.

argumentation could make a weaker position seem stronger. Their rhetorical capacity could trump what may have been right and just. Plato was troubled by the Sophists because they conflated being and non-being, employed both the good and the bad, and thus disregarded the virtuous pursuit of the good, the true, and the beautiful.[23]

Ancient thinkers were concerned that these technical arts required physical labour, unlike the liberal arts. Seneca wrote in a lucid and scornful way about their servility and the labourer's contorted body. Certain mechanical inventions, he insisted, were constructed with "an alert and sagacious intellect, but not an elevated and inspired one – as was anything else which has to be discovered by a bent back and a mind contemplating the ground."[24] Being upright, he argued, was an essential condition for philosophy and true wisdom. Only in this position could one survey the heavens with "right reason" [*recta ratio*]. According to Seneca, *machinatores* who devise stage scenery with bent backs belong to *artes ludicrae*, a lower category. Unlike the liberal arts, the mechanical arts were not fit for a free person. Although not all of the mechanical arts were crude and unworthy, the more banausic or illiberal arts were regarded with disdain because they deteriorate the body and weaken the mind.[25] These arts, which brought humans into close proximity with physical matter and generated revenue, held a lower status because they were only a means to an end. They were divorced from higher virtue and wisdom.[26] "For both Plato and Aristotle, the person who uses an object and, therefore, knows its proper purpose possesses *scientia*; the craftsman who makes the object holds at best correct opinion about it."[27]

It was a question of technique rather than wisdom. For most of the ancients *techne* was not an end in itself, but some recognized that these technical arts relied on rational order and rules. This placed these arts above servile labour. They were even provisionally allied to higher forms of knowledge. Like mechanics, they combined theoretical arts and craft. They relied on wisdom but were rooted in the physical realm of making. Due to this

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[23] Plato, *The Sophist*, trans. Harold North Fowler (Cambridge, MA: Harvard University Press, 1986), 455–9. Sophistry differs from the mechanical in that it operates not on the world but on people.
[24] Seneca, *17 Letters*, trans. C.D.N. Costa (Warminster: Aris & Phillips, 1988), 91.
[25] Aristotle, *Politics*, trans. H. Rackham (London: Heinemann, 1932), 638–9.
[26] Whitney, "Paradise Restored," 32.
[27] Ibid.

ambiguous position, many different attitudes towards mechanical arts co-existed, thus preventing a simple reading of them as exclusively negative or positive.

In the ancient world, making was still steeped in ritual, with its mythical horizon of understanding. Actions were not yet autonomous from the situations in which they were employed. A machine could not just operate anywhere, without the proper auguries and adjustments. Ancient machines belonged to a concept of nature [*physis*] that was a living force with generative power. One still had to curry benevolence from the appropriate god(s). Consequently, ancient techniques were not reducible to instrumental operations on dead matter (i.e., technology). They were described as "stochastic," meaning that they were able to hit a target. "The target in question is identified with the right moment or opportunity [*kairos*], which cannot be defined in advance but must be sought constantly, and varies from case to case. The stochastic character of *techne* was then the result of its constant negotiation between general principles and individual situations."[28] Prediction was not entirely possible, so the future could not be fully anticipated. As a form of *techne*, the operation of the machine was still associated with fortune [*tyche*] and was not yet universal.

THE MIDDLE AGES

After the fall of the Roman Empire due to internal pressures, breakdown of trade, and attacks from northern Germanic tribes, its former power was decentralized. This dispersal was accompanied by a shift from a slave-based economy to a feudal system with a growing interest in mechanisms that could provide assistance. The Aristotelian world view of the Middle Ages baptized new concepts of the machine in Christian waters. Christianity emphasized manual labour for a number of reasons, including a religious aversion to evils associated with idleness.

[28] Cuomo, *Technology and Culture*, 18.

Saint Augustine asked the Divine, "By what means did you make heaven and earth?" and "What tool [*machina*] did you use for this vast work?"[29] The cosmic machine [*machina universalis*], constructed on high by God, the master builder, was the first contrivance built with divine *logos* (see fig. 1.3). Augustine likely imagined the divine *machina* as a crane or hoist-like device. *Machina* was also affiliated with building and could be any type of hoist or scaffolding, not necessarily physical, and thus enabled divine *logos* to be included. It was derived etymologically from Latin and Doric Greek *makhana* (Attic Greek *mekhane*, from *mekhos* 'contrivance'), meaning a stratagem, expedient, or remedy. The concept of *mechane* as a mechanical expedient is evident in the contentious theatrical device *deus ex machina*, in which a crane lowers a god into a scene to resolve conflict. *Mechane* could denote "devices or things that allow one to do or work out something, while its opposite *amechane* indicates difficulties in the material world."[30] In *Buildings,* Procopius used the word *amechane* to describe a writer's inability to find words that express something extraordinary, such as the vastness of Hagia Sophia. This is one example of a metaphoric relationship between the formulation of language and the operation of machines.

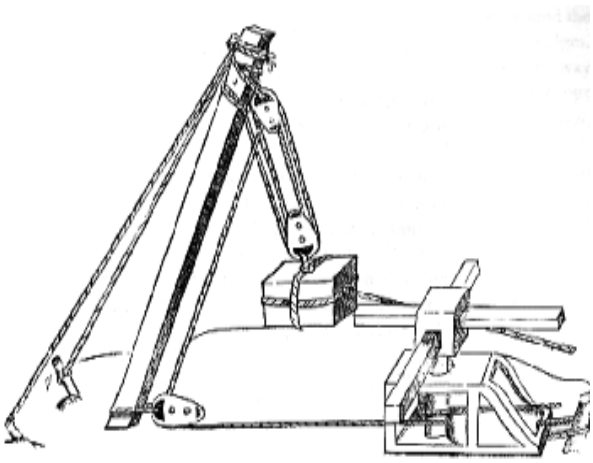

Fig. 1.3 Lifting tackle

Isidore of Seville understood the machine as something architects use to construct order. He derived the word *masiones* [mason] from *machina* because *architecti* [master builders] build on foundations and use these machines to construct walls and roofs.[31] In an analogous vein, Ignatius of Antioch's earlier "Letter to the Ephesians" interpreted the cross as a machine.[32] Ignatius imagined a crane with two upright posts that formed an

[29] Augustine, *Confessions*, vol. 2, book 9–13, ed. and trans. William Watts, Loeb Classical Library, no. 27 (Cambridge, MA: Harvard University Press, 1912), 11:5.
[30] Cuomo, *Technology and Culture*, 151.
[31] Isidore of Seville, *The Etymologies of Isidore of Seville*, ed. and trans. Stephen A. Barney, W.J. Lewis, J.A. Beach, and Oliver Berghof (New York: Cambridge University Press, 2006), 377.
[32] Ignatius of Antioch, "Letter to the Ephesians," in *The Epistles of St. Clement of Rome and St. Ignatius of Antioch*, trans. James A. Kleist (Mahwah, NJ: Paulist Press, 1978), 63–4. Later we

upside-down V and used a pulley, wheels, and rope to hoist materials for building. His analogy between the upright machine and the cross recognized that both of these wooden contrivances lift and elevate to help build the church [*ecclesia*] and to undo the curse of Babel, which confused the language of its builders.

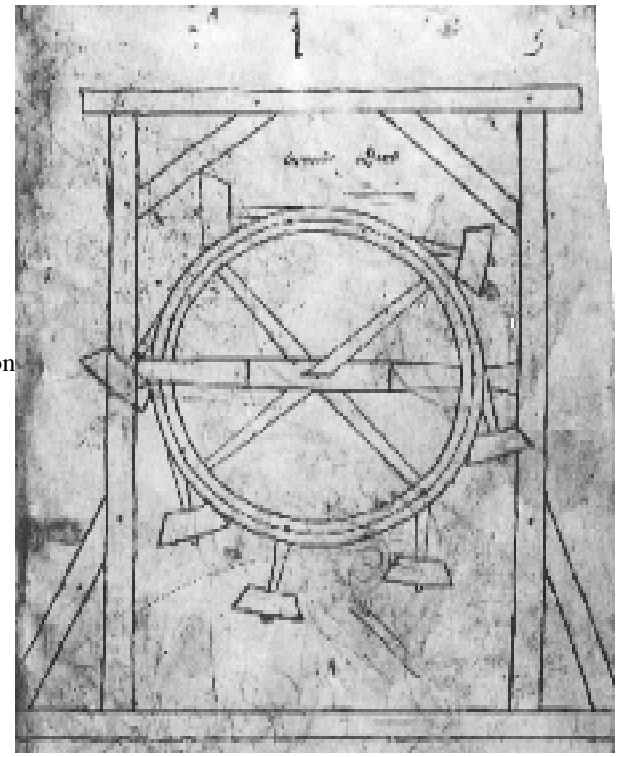

Fig. 1.4 Perpetual motion
century).

The mechanical analogy in building practices was applied equally to cognitive constructions in monastic settings. "The machine of the mind," said Gregory the Great, is "the energy of love" that lifts us upon high. Mary Carruthers argues that contemplation was an inventive construction, built from memory and not *ex nihilo*.[33] Machines could be found in many architectural mnemonics throughout the period. God gave knowledge, and it was humankind's duty to disclose it through human works. Medieval machines and their analogies were not intended to understand the cosmos and its entities objectively. Instead, machines demonstrated wonder in the workings of Nature that the Christian God had created (see fig. 1.4).

Many medieval philosophers, such as Nicole Oresme, regarded wonder to be an appropriate response to the cosmos that God had made, but also to phenomena without an apparent cause, which a machine might present. Again, they were working from the philosophical scaffolding erected by the Greeks. By privileging causal knowledge, they began to marginalize wonder. Augustine famously said that marvels were not "against

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will see its resonance with Jarry's story about the passion of Christ as a bicycle race where the cross once again becomes a machine.

[33] Mary Carruthers, *The Craft of Thought* (Cambridge: Cambridge University Press, 1998), 23.

nature" but "against what we know of nature."[34] Wonder was not rejected as false; it was regarded as preternatural [*praeter naturam*], outside or beyond the habits of nature. It was defined in opposition to the semi-ambiguous poles of the natural (which had a known cause) and the supernatural (which appeared by divine intervention). Wonder depended on the knowledge and experience of the observer: Miracles were wondrous to all, but mechanical contrivances were wondrous only to the uninstructed. Despite this trend, the wonders of mechanical art still relied on natural forces to produce baffling effects. "Like natural wonders," observe Lorraine Daston and Katharine Park, "these heterogeneous creations were united by the psychology of wonder, drawing their emotional effects from their rarity and the mysteriousness of the forces and mechanisms that made them work."[35]

The mechanical arts were able to seduce observers with artefacts that were too ingenious to be analyzed. In the late thirteenth and early fourteenth century, one of the most famous ensembles of mechanisms was at the Castle of Hesdin in Artois. The following passage is from a much longer description in the accounts of Philip the Good, Duke of Burgundy (1396–1467):

> And at the entrance to the said gallery there is a machine for wetting ladies when they step on it, and a mirror in which one sees many deceptions; and he made also at the entrance to the said gallery an "engine" which, when its knobs are touched, strikes in the face those who are underneath and covers them with black or white. And also a fountain in this gallery in which the water will flow at will and always return whence it came. Item, at the exit of this gallery there is another machine by which all who pass through will be struck and beaten with sound cuffs on their heads and shoulders. Item, in the room before the hermit, that makes it rain everywhere, like the water which falls from the sky, and also thunder and snow and lightning, too, as if one were looking at the sky.[36]

Guests were soaked from all sides by hidden sources of water, defiled by various powders, made to view their "besmirched" selves in mirrors, and made to hear voices without bodies. They were presented with animal automatons, including a stag, birds, and a carved monkey with an applied skin, which often required repair due to their fragility

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[34] Augustine, "The City of God," in *The Works of Aurelius Augustine, Bishop of Hippo*, trans. Rev. Marcus Dods (Edinburgh: T. & T. Clark, 1871), 2:417–32.
[35] Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150–1750* (New York: Zone Books, 1998), 90.
[36] Comte de Laborde, *Les Ducs de Bourgogne*, 3 vols. (Paris: Plon frères, 1849–52), 2: 258.

and "the frequency of the calls upon them to perform."[37] These machines were not merely functional devices or practical jokes; they responded to the thirst for mechanical wonder as an inquiry into nature and causality. This is also found in the Automaton that populated the grottos of gardens (see fig. 1.5).

In medieval epistemology the mechanical and the machine were ambivalent. On one hand, they alluded positively to Daedalus and Aristotelian wonder; on the other hand, they were viewed with suspicion. Hugh of St. Victor traced the word "mechanical" to *moechus*, which he said means "adulterer."[38] Hugh borrowed his etymology from the Carolingian Martin of Laon, who argued that "*moechus* means adulterer, a man who secretly pollutes the marriage bed of another. From *moechus* we call 'mechanical art' any object which is clever and most delicate and which, in its making or operation, is beyond detection, so that beholders find their power of vision stolen from them when they cannot penetrate the ingenuity of the thing."[39] The adulterer, frequently cited to illustrate the lower status of the mechanical arts, was not just an impudent soul but also a trickster who could fool sight and induce wonder. Although the

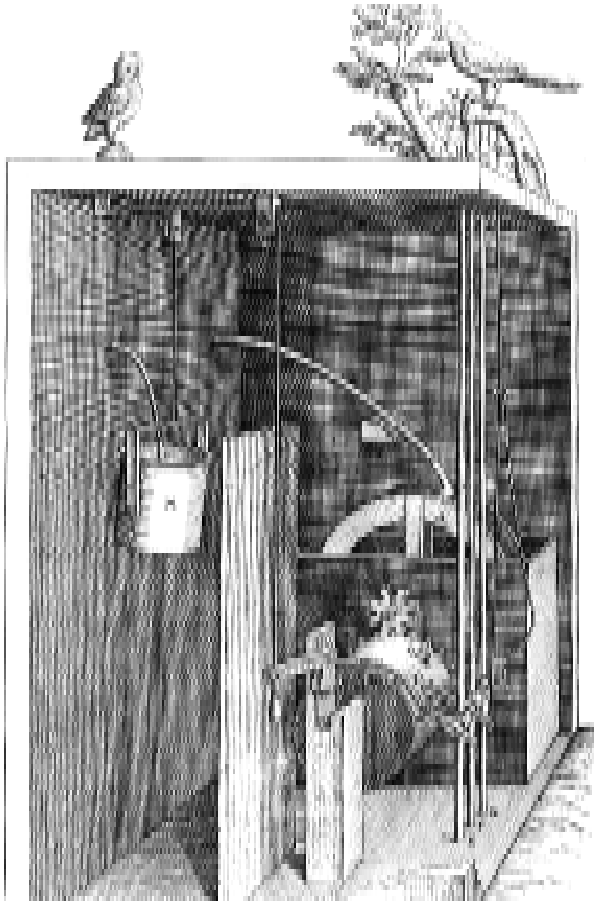


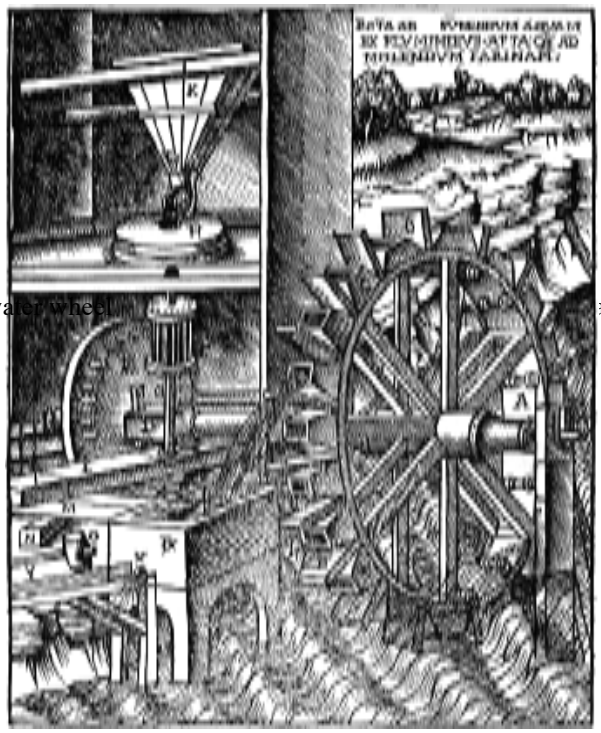
Fig. 1.5 Automaton after I

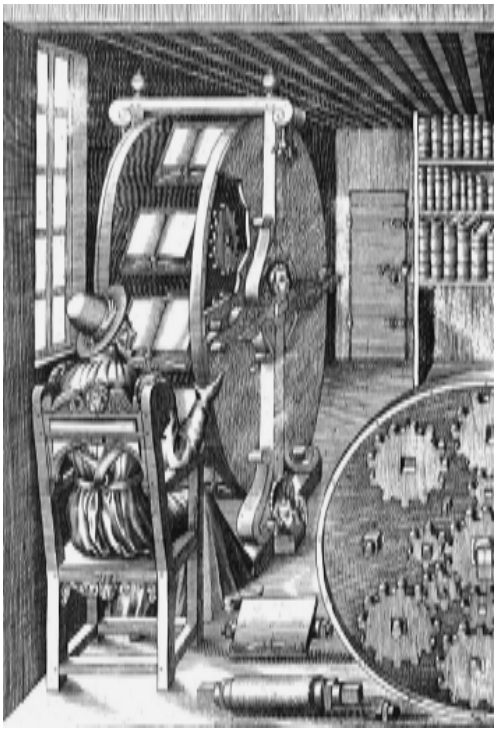
[37] Merriam Sherwood, "Magic and Mechanics in Medieval Fiction," *Studies in Philology* 44, no. 4 (Oct. 1947): 590.
[38] Hugh of St. Victor, *The Didascalicon of Hugh of St. Victor: A Medieval Guide to the Arts*, trans. Jerome Taylor (New York: Columbia University Press, 1961), 191.
[39] See Martin of Laon, *Scholica graecarum glossarum*, ed. M.L.W. Laistner, "Notes on Greek from the Lectures of a Ninth Century Monastery Teacher," *Bulletin of the John Rylands Library* 7 (1922–23): 439.

status of certain mechanical arts was rising due to their growing use of physical mathematics, mechanics were still associated with wondrous ingenuity.

RENAISSANCE MACHINE

The status and use of machines began to change in the fifteenth and sixteenth centuries. Machines both reflected and shaped the Renaissance imagination and its intellectual, moral, and political concepts. In fact, they played a pivotal role in many humanist questions involving technical affairs that were bound by "means and instruments." There were machines for a multitude of purposes: from practical tasks such as milling flour (see fig. 1.6) to more refined activities such as reading (see fig. 1.7). Machines gained public standing by enabling extraordinary building projects such as Filippo Brunelleschi's dome at Santa Maria del Fiore in Florence. At the same time, treatises were written on the potential of the machine for social and political purposes. Although Brunelleschi left behind few records, his mechanical works were transmitted in Mariano Taccola's *De ingeneis* (1433) and *De machinis* (1449). Taccola's first treatise





ig. 1.6 Flour mill and wa achine

was studied widely and influenced Francesco di Giorgio, Antonio da San Gallo, Bartolommeo Neroni, Oreste Biringuccio, and other writers. Drawings became an integral part of their treatises as they sought to articulate the ideals of their craft. Mechanical devices were included in many other works, such as Buonaccorso Ghiberti's *Zibaldone* and later the numerous "Theatres of Machines."

Mathematics previously had been an ontologically distinct realm, focused on the regularity and precision of the supralunar world rather than the irregular affairs of the human world below the moon. With the growing proliferation of machines and mechanics, mathematics was applied to many different situations. John Dee said this very clearly: "Full well I know, that he which inventh, or maketh these demonstrations, is generally called *A speculative Mechanicien*: which differreth nothing from a *Mechanicall Mathematicien*."[40] This expansion accompanied the growth of human dignity and demonstrated the human ability to transcend immediate circumstances. Pico della Mirandola (1463–1494), a student of Marsilio Ficino, famously articulated this point in "Oration on the Dignity of Man":

> But, when the work was finished, the Craftsman [the Divine Architect] kept wishing that there were someone to ponder the plan of so great a work, to love its beauty, and to wonder at its vastness. … He finally took thought concerning the creation of man … Adam … The nature of all other beings is limited and constrained within the bounds of laws prescribed by Us. Thou, constrained by no limits, in accordance with thine own free will, in whose hand We have placed thee, shalt ordain for thyself the limits of thy nature. We have set thee at the world's center that thou mayest from thence more easily observe what is in the world … so that with freedom of choice and with honor, as though the maker and molder of thyself, thou mayest fashion thyself in whatever shape thou shalt prefer. Thou shalt have the power to degenerate into the lower forms of life, which are brutish. Thou shalt have the power, out of thy soul's judgement, to be born into the higher forms, which are divine.[41]

Although this was starting to sound modern, they still looked to the past for guidance. There was not yet evidence of progressive ideas that would become pervasive later.

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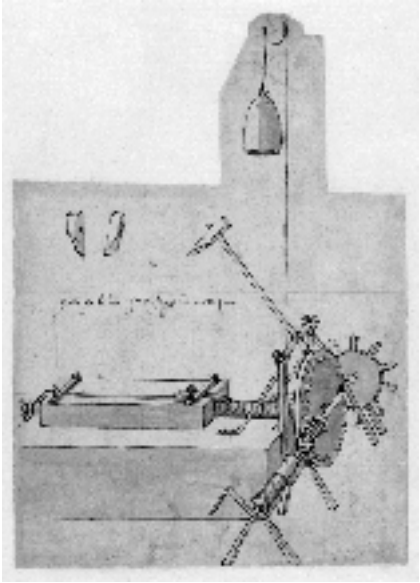
[40] Euclid, *The Elements of Geometrie of the Most Ancient Philosopher Euclide of Megara*, trans. H. Billingsley, preface by John Dee (London: John Daye, 1570).
[41] Giovanni Pico della Mirandola, "Oration On the Dignity of Man," in *The Renaissance Philosophy of Man*, trans. Elizabeth Livermore Forbes (Chicago and London: University of Chicago Press, 1956), 224–5.



Mechanical concerns were highly evident in the work of Leonardo da Vinci, who witnessed first-hand the ingenuity of Brunelleschi's mechanisms in Florence. The famous résumé that Leonardo sent to the Duke of Milan, Ludovico Sforza, described himself as a well-versed machinator. "I shall contrive catapults, mangonels, trabocchi, and other engines of wonderful efficacy."[42] His subsequent drawings show profound ingenuity and a remarkable ability to delineate the nuances of innovative machines (see fig. 1.8). Although Leonardo's brilliant work seems prophetic, his numerous fragments, inconsistencies, and speculations have thwarted all attempts to read his work systematically as modern science or engineering. E.J. Dijksterhuis explains, "One can realize no more clearly how difficult it was to pass from peripatetic to classical science than by seeing a man of his genius, diligence, interest, and high technical ability wrestling with the essential obscurities shrouding the foundations of mechanics."[43] The difficulty of projecting mechanics systematically and rationally into the world was evident in the sixteenth century. This world still had a profound *depth* that resisted total instrumentality. "Mechanics," Leonardo argued, "is the paradise of mathematical science, because by means of it one comes to the fruits of mathematics."[44] Mathematics in the Renaissance still symbolized the greater order of the cosmos. Leonardo's machines recall Daniel Barbaro's commentary on Vitruvius, who, as Marco Frascari puts it, "sees the force that makes a machine moving, analogous to imagination [*fantasia*], the force that moves the human mind."[45] *Fantasia*, Frascari continues, was used to probe reality and "expand the

[42] Leonardo da Vinci, *Notebooks*, ed. Thereza Wells (London: Oxford University Press, 2008), 276.
[43] E.J. Dijksterhuis, *The Mechanization of the World Picture* (London: Oxford University Press, 1961), 255.
[44] Leonardo da Vinci, *Notebooks*, 10.
[45] Marco Frascari, *Monsters of Architecture: Anthropomorphism in Architectural Theory* (Savage, MD.: Rowman and Littlefield, 1991), 24.

potentialities of new knowledge."[46] In Leonardo's well-known words, "wisdom is the daughter of experience." He struggled with the fact that his work was rooted in the probable and situational.[47] The machine was thus bound to the world of the artisan and its many contingent difficulties.

EARLY MODERNITY AND THE ENLIGHTENMENT

The concept of a machine began to shift drastically with Galileo Galilei, who declared that the structure of our world is essentially mathematical. "It [the universe] is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures, without which it is humanly impossible to understand a single word of it; without these, one wanders about in a dark labyrinth."[48] This radically questioned the earlier ontological distinction between the realms of metaphysics and physics. While Galileo's world was somewhat idealistic, Leonardo operated in an earthly realm that was open to mathematical experimentation. Natural phenomena could be reduced drastically to convey a model clearly. As he put it, "It is necessary to abstract from them."[49]

The form of a machine and the extension of its logic into a building no longer relied on a divine "idea" but on the mathematical and structural behaviour of materials. Rejecting earlier beliefs, Galileo declared that the nature of a material entity does not change with motion, enabling him to establish a direct link between the statics of a building and the dynamics of a machine. "Only Galileo," Pérez-Gómez observes, "formulated clearly the problem of statics and strength of materials as part of the geometrization of human space: to determine, by means of a geometrical hypothesis, the

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[46] Ibid., 46.

[47] Although Renaissance architects were starting to become more like modern professionals, they had a vested interest in culture through the trivium and quadrivium. Still, the early Renaissance followed an almost ritualized construction process, as medieval master masons had done. Brunelleschi's procedures were nearly identical to medieval building practices. For a conversational account in popular literature, see Ross King, *Brunelleschi's Dome: How a Renaissance Genius Reinvented Architecture* (New York: Penguin, 2001). For a technical guide see Frank Prager and Gustina Scaglia, *Brunelleschi: Studies of His Technology and Inventions* (Cambridge, MA: MIT Press, 1970).

[48] Galileo Galilei, "The Assayer," in *Discoveries and Opinions of Galileo*, trans. Stillman Drake (New York: Doubleday, 1957), 237.

[49] Galileo Galilei, *Dialogues Concerning the Two Chief World Systems*, trans. Stillman Drake (Los Angeles: University of California Press, 1967), 232.

dimensions of structural elements in relation to the weights they had to carry and the quantitative properties of the building materials."[50] With this rather modern concept, the machine slid closer to the domain of engineering (see fig. 1.9).

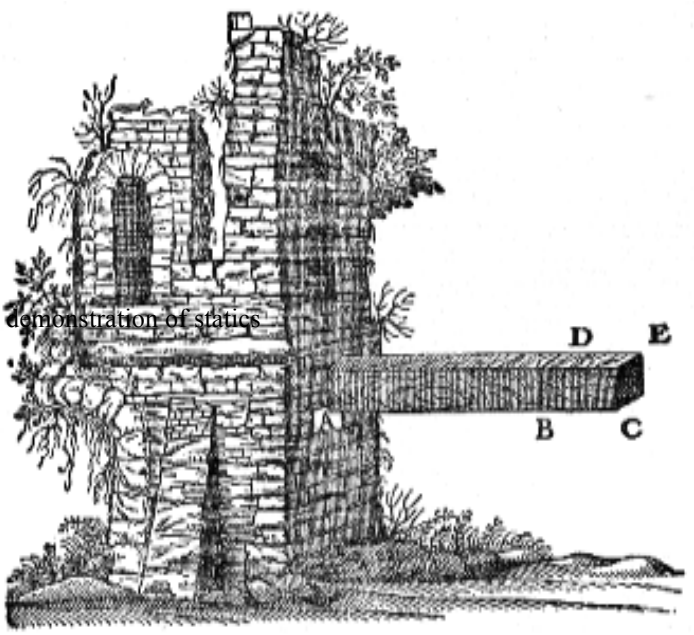

Fig. 1.9 A mechanical demonstration of statics

"For every machine and structure," Galileo argued, "whether artificial or natural, there is set a necessary limit beyond which neither art nor nature can pass."[51] His notion of "limit" presupposed "efficiency," according to Liane Lefaivre and Alexander Tzonis.[52] With Galileo condemning concepts of motion that are "against nature," the earlier tradition of wondrous mechanisms would become abject for the Enlightenment. "Wonder and wonders became simply vulgar, the very antithesis of what it meant to be an *homme de lumières*, or for that matter a member of any elite."[53] Nevertheless, his concept of the universe remained tied to an older model because it retained Aristotle's innate inclination of objects toward the centre of the earth. "Not everyone was as ready … to substitute the noetic simplicity of rational mechanics for the empirical complications of the world of observed physical phenomena."[54]

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[50] Alberto Pérez-Gómez, *Architecture and The Crisis of Modern Science* (Cambridge, MA: MIT Press, 1985), 238–9.
[51] Galileo Galilei, *Dialogues Concerning Two New Sciences*, trans. Henry Crew and Alfonso de Salvio (New York: Macmillan, 1914), 3.
[52] Liane Lefaivre and Alexander Tzonis, "The Machine in Architectural Thinking," *Daidalos* 18 (1985): 16–26.
[53] Daston and Park, *Wonders*, 19.
[54] Dijksterhuis, *Mechanization*, 363.

Changes soon became evident in the "middle sciences" [*scientiae mediae*], including astronomy, optics, and mechanics. They promoted an "indirect mathematization of reality" because they were situated between metaphysics (theology) and physics.[55] The mechanical arts developed into practical mathematics but remained separate from natural philosophy. Seventeenth-century machines played an important role in shaping and understanding the world. Unlike autonomous modern machines, they were embedded in a rich cultural sphere and were developed with a speculative thrust that was more metaphysical than technical. The function of a machine was less important than its capacity to demonstrate a metaphysical "understanding and representation of movement in the created world."[56] The mechanical arts began to encroach on the natural world through convincing applications. In the preface of *Micrographia*, Robert Hooke (1635–1703) contended that, with mechanical knowledge, "we may perhaps be inabled to discern all the secret workings of Nature, almost in the same manner as we do those that are the productions of Art, and are manag'd by Wheels, and Engines, and Springs, that were devised by human Wit" (see fig. 1.10).[57] Nature was becoming subject to mechanical laws or at least restrained by mechanical metaphors.

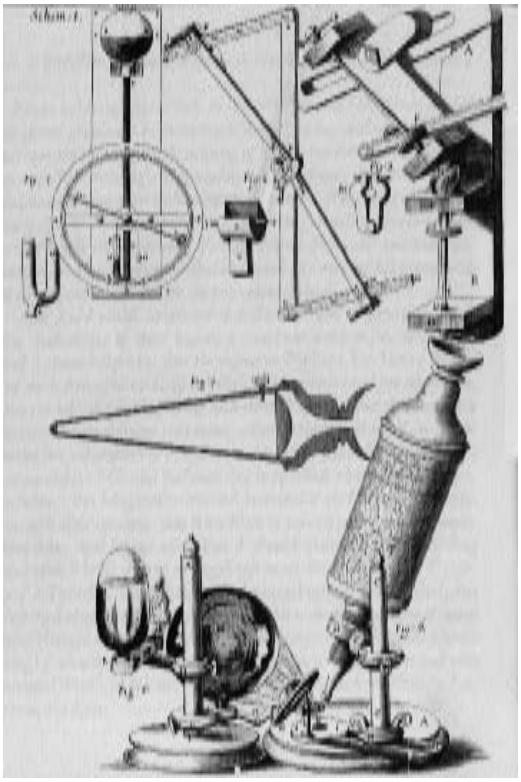

Fig. 1.10 Microscope

The metaphysics of René Descartes applied the mechanical metaphor to the body. He rejected the late medieval trope in which the human body was a *machina rerum*, a microcosmic analogy to the *machina aetherea* of the cosmos. Galilean concepts had

[55] Dalibor Vesely, *Architecture in the Age of Divided Representation* (Cambridge, MA: MIT Press, 2004), 295–6.
[56] Ibid., 296.
[57] Robert Hooke*, Micrographia, or some Physiological Descriptions of Minute Bodies Made by Magnifying Glasses, with Observations and Inquiries Thereupon* (New York: Dover, 1961), iv.

caused such analogies to wane, but Descartes's concept of the body as a machine was unprecedented and literal. Although the Cartesian body still presumed a divine *inventor*, it operated silently according to mechanical laws. The world's *res extensa* included the body (in which an "I" resided) and everything else that had extension and motion. The body was defined entirely by number; shape, size, quantity, and motion were its only properties. States of consciousness were regarded merely as secondary qualities, with no bearing on truth. Julien Offray de La Mettrie radicalized this concept by positing not only that the human body is a watch-like "machine" that functions with "the living image of perpetual movement," but that the soul [*esprit*] is part of the very same machine.[58] This is a step that Descartes did not or could not take. As the machine became *the* exemplar, the older notion of a supersensible "Idea" withered away. With the body and soul understood as mechanisms, mechanical concepts could be applied to other situations through ingenious inventions. This tendency was satirized in Cyrano de Bergerac's *L'Histoire comique des États et Empires de la Lune* (1657), which offered an imaginative account of space travel.

Although this development was assumed to be divinely sanctioned, it required tremendous faith in the human ability to step into divine shoes. Despite occasional failures, humankind's growing belief that it could understand, command, and utilize *res extensa* culminated in the natural (i.e., mechanistic) philosophy of Isaac Newton. He explained the actions of the physical world in mechanical terms, replacing speculative metaphysics with "induction and experimentation."[59] Through observation, he discovered mathematical principles in worldly situations that were stripped of symbolic significance and particular qualities. These principles operated in an infinite and abstract void, a homogeneous space and time defined entirely by number. Edmund Halley's "Ode to Newton" declared that "mathematics drives away the clouds."[60] Beyond these metaphoric clouds, one could discern the "first cause," the transcendental "always and everywhere" at the very source of Newtonian space and time.

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[58] Julien Offray de La Mettrie, *Man a Machine* (Chicago: Open Court, 1912), 41.
[59] Pérez-Gómez, *Architecture and the Crisis*, 77.
[60] Edmund Halley, "Ode to Newton," in *The Principia: Mathematical Principles of Natural Philosophy*, trans. I. Bernard Cohen and Anne Whitman (Berkeley and Los Angeles: University of California Press, 1999), 379–80.

With the spread of Newtonian concepts and Enlightenment ideals, the mechanical arts became elevated in status. They were promoted heavily by Denis Diderot in the *Encyclopédie*. Earlier societies, he argued, had suffered from the "disdain [of] useful men."[61] Even during the Ancien Régime, practitioners of the *arts et métiers* were placed at a middle level in the social hierarchy because their works involved both the hand and the mind [*esprit*]. Bodily labour was still considered base, prompting some workers to stress their art (i.e., intellectual virtue) rather than their labour.[62] In response, Diderot sought to "pull the mechanical arts up from the debasement where prejudice has held them for so long" so that technical knowledge could advance society.

Like other Enlightenment thinkers, Diderot believed that humans are part of the natural order. Recognizing that the mechanical arts engage nature directly, he declared that they should occupy a more privileged position than the liberal arts. Empirical observations of wondrous nature would lead to a proliferation of the arts, accelerated by "a detailed examination of the different aspects under which the same production can be considered."[63] In his essay "Art," he argued that "every art has its speculative and its practical aspect: the former consists in knowing the principles of an art, without their being applied; the latter in their habitual and unthinking application."[64] An artisan whose practice was informed by natural laws (discovered by human reason) deserved a higher status than an artisan who relied solely on habit.

Motivated by Enlightenment science, the mechanical arts became political tools for progress: instruments that would be utilized by republican revolutionaries to establish a more just, peaceful, and less socially stratified society.[65] At the same time, "the simple republican formula for generating progress by directing improved technical means to societal ends was imperceptibly transformed into a quite different technocratic commitment to improving 'technology' as the basis and the measure of – as all but

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[61] Denis Diderot and Jean le Rond d'Alembert, *Encyclopédie, ou Dictionnaire raisonné des sciences, des arts et des metiers* (Stuttgart-Bad Cannstatt: Frommann, 1966), 1:714.
[62] William H. Sewell, *Work and Revolution in France: The Language of Labor from the Old Regime to 1848* (New York: Cambridge University Press, 1980), 24.
[63] Ibid., 67.
[64] Diderot and d'Alembert, *Encyclopédie*, 1:714. My translation.
[65] Leo Marx, "Does Technology Mean Progress?," *Technology Review* (Jan. 1987): 33-71.

constituting – the progress of society."[66] The mechanical arts were expected to perform with valour and heroism, applying scientific reason to generate knowledge.

MATURE MODERNITY AND THE TECHNOLOGICAL MACHINE

During the preceding centuries, the imagined representation of a potential machine and its realization had remained separate. Diderot disparagingly quipped, "How many bad machines are suggested every day by men who imagine that levers, wheels, pulleys, and cables perform in a machine as they do on paper!" This changed at the end of the eighteenth century, with drastic effects. In *Géométrie descriptive* (1795), Gaspard Monge (1746–1818) established the first method for mapping the world systematically onto a set of two-dimensional planes. Monge's rules for recording geometric figures became the basis of "mechanical drawing." This established a one-to-one relationship between what was drawn and what would be built.[67] "The invention [of descriptive geometry] … was a crucial step in achieving a systematic mathematization of praxis."[68] Many considered Monge's method to be "indispensable" for the architect and the engineer. It could reduce the construction tolerances of a work's realization by eliminating the need for translation between drawing and building. Consequently, paper space became equivalent to lived space. This is even more evident today, as contemporary practice pursues more sophisticated forms of instrumental methods, like computation, without questioning their consequences.[69]

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[66] Leo Marx, "The Idea of 'Technology' and Postmodern Pessimism," in *Does Technology Drive History?*, ed. Merritt Roe Smith and Leo Marx (Cambridge, MA: MIT Press, 1994), 251.
[67] "Designers were thus in possession of a universal process [descriptive geometry] for determining, unambiguously, … however complex, and executors had a definitive guide to the interpretation of graphic instruction." Leonardo Benevolo, *History of Modern Architecture* (Cambridge, MA: MIT Press, 1977), 1:6.
[68] Pérez-Gómez, *Architecture and the Crisis*, 281.
[69] This, I would argue, includes aspects of parametricism, sustainability, photorealist rendering, standard construction documents and their other brethren. These are exacerbated further by increasingly digital production and fabrication.

Monge's method was adopted by Jean Nicolas Pierre Hachette (1769–1834), who was given the task of developing a course on machines at the École Polytechnique after Monge was called away to Egypt to serve Napoleon. The course's text, *Traité élémentaire des machines* (1811), became highly influential because its described machines that "make the least skilled worker more skilled."[70] Using purely functional and

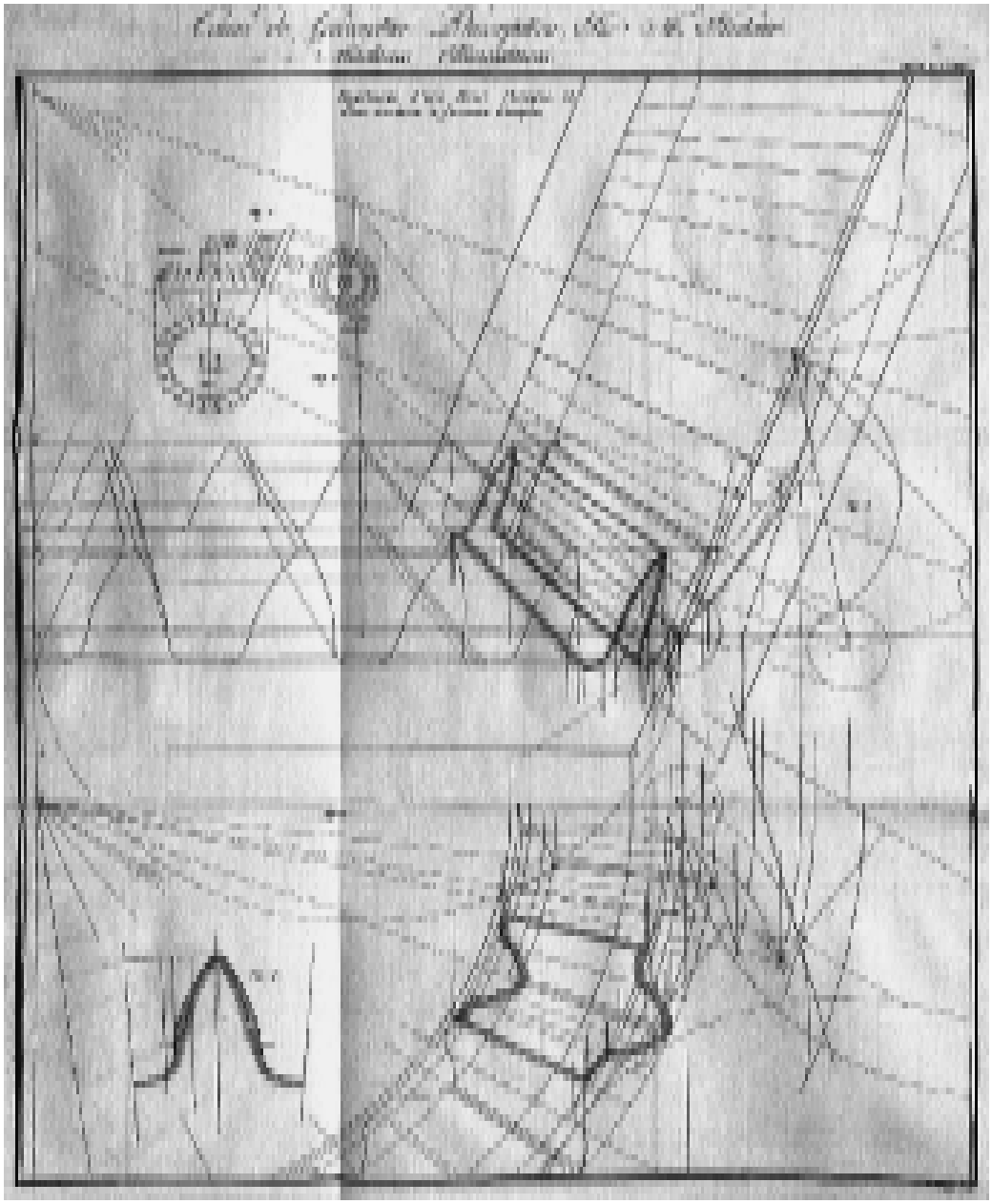

Fig. 1.11 Conical wheel gears and a lantern with conical spindles

[70] Pierre Hachette, *Traité élémentaire des machines* (Paris: Klostermann, 1811), vii. My translation.

geometric criteria, Hachette classified machines according to their conversion from one motion to another (e.g., from circular to linear).[71]

Franz Reuleaux (1829–1905) ventured to analyze, systematize, and synthesize kinematic mechanisms that could be used by engineers for rational machine design. He defined basic mechanical components and developed a system for classifying existing types of mechanisms. He is considered the father of kinematics due to his research on motion, separate from force and mass. To codify machines, he analyzed Leonardo da Vinci's sketches in a literal fashion. The Englishman Robert Willis (1800–1875), best known for his writings on the architecture of Cambridge, worked in a similar manner. He attempted to limit the study of machines to "the domain of the mathematician." He argued, "For every machine will be found to consist of a train of pieces connected together in various ways, so that if one be made to move they all receive a motion, the relation of which to that of the first is governed by the nature of the connexion."[72] Like Reuleaux, he attempted to develop a simple system of "mere motion" that would not be complicated by additional factors (see fig. 1.11).

Although instrumentality was the dominant force behind the growing interest in machines, metaphysical concerns had resisted the shift towards technology proper. A watershed moment occurred in the now famous exchange between Pierre-Simon Laplace (1749–1827) and Napoleon (1769–1821). The emperor asked Laplace why there was not a single mention of the Divine in his lengthy discourse. Laplace replied, "I had no need of that hypothesis."[73]

By the nineteenth century, history was believed to be progressive. The slow evolution towards an ever-brighter future was well underway. The only authentic knowledge was scientific knowledge, and knowing was reduced to "know-how." This had serious consequences for the machine. The new potential of the human will enabled

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[71] Shortly after the publication of Hachette's work, Mary Shelley, who was spending her summer near Lake Geneva in 1816, penned a less than positive account of these "unhallowed arts." Her initial story became the basis for the novel *Frankenstein; or, The Modern Prometheus* (1818).
[72] Robert Willis, *Principles of Mechanisms* (London: Cambridge University Press, 1871), iv.
[73] Walter William Rouse Ball, *A Short Account of the History of Mathematics* (London: Macmillian, 1908), 417–8.

the machine to become fully technological.[74] Humans could exercise control over their surroundings, as well as time. The future *qua* future was systematically protected from hazards by the technological attitude. In other words, technical knowledge [*techne*] dismantled fortune [*tyche*]. The machine was reduced to its functional operations and was relegated almost entirely to the domain of engineering, where it performed in a highly abstract way.

The growing power of autonomous technology was startling. The machine no longer was associated with the physical labour of the mechanical arts. During the nineteenth century, instrumental systems such as electricity and railroads were mapped onto the world. Railroads were advertised with provocative images: for example, in 1850 by the Ludwig Railroad Co., which promised "magical flying" and "one and a half hours in ten minutes." Railroads were also regarded as an "emancipation from nature" and, in the popular imagination, as a "destruction of space and time."[75] In fact, railroads prompted the synchronization of local and national time.[76] They expressed a boundless, emancipated optimism that could be applied to almost any realm.

As noted in the Introduction, technology became an international, then a global reality. Technological ideals came to stand above ethical and symbolic issues. This trend was noted by Leopold Eidlitz, the celebrated Jewish-American architect:

> We are busy in improving the material conditions of mankind and are apt to look upon ethical relations not so much as paramount in themselves, but as adjuncts to material well-being. … The merchant, the manufacturer, the builder of railroads and ships … have taken the place of kings, bishops and generals. … The majority of buildings which command the attention and services of the architect at the present time and in this country are strictly business buildings … railroad stations, insurance and office buildings, stores … Of course, we build courts of justice and capitols; they … represent vital social and political ideas … but these ideas … have been deprived of their poetry … A judge no longer performs the functions inherent in his office in the past, he has sunk down into a referee who decides upon the cogency of contending lawyers … Hence it is a fact that a

[74] "The will to will forces the calculation and arrangement of everything for itself as the basic forms of appearance, only, however, for the unconditionally protractible guarantee of itself. The basic form of appearance in which the will to will arranges and calculates itself in the unhistorical element of the world of completed metaphysics can be stringently called 'technology'." Martin Heidegger*, The End of Philosophy*, trans. Joan Stambaugh (Chicago: University of Chicago Press, 2003), 93.
[75] Gerhard Dohrn-van Rossum, *History of the Hour: Clocks and Modern Temporal Orders*, trans. Thomas Dunlap (Chicago: University of Chicago Press, 1996), 347.
[76] Ibid., 337–9.

> court-room is nothing more than a convenient apartment for legal discussion, and a number of such apartments are habitually packed into a rectangular structure which can in no way be distinguished from surrounding business buildings.[77]

It is important to recognize that technology is *not* what is most visible (such as machines and engines), nor is it simply a tool that one has on hand. It is much more subtle and perhaps banal, yet extremely effective. It is the know-how that pre-exists the arrival of something, and the means with which it becomes manifest. By disregarding local differences and idiosyncrasies, this know-how can be mapped onto almost any domain. It then influences our ways of construing, constructing, and inhabiting. "In the reality of modern life, the means, it would seem, are more important than the ends."[78] Technological thought arranges anomalies according to a theory that has been drawn out in advance. It is associated with the will to will.[79] Everything is ordered for use and ready at hand, to paraphrase Heidegger. What cannot be ordered, Herbert Dreyfus notes, are "treated as recalcitrant human beings who are deviant and must be reformed or as natural forces that have yet to be understood and mastered."[80] Still, what is arguably most significant – what makes our situation humane – is not easily "improved" by these means, but we continue to try nonetheless.

Although humankind may not be able to divert this dominant force, in certain instances it is important to try to hold it at bay. In fact, marginal practices continue to exert some resistance. The world of Alfred Jarry and his machines, I believe, was one such practice. But before addressing the work of Jarry another context needs to be addressed because the situation was more complex.

As one context for Jarry's work, I have traced the history of architectural machines according to what Michel Haar, quoted at the beginning of this chapter, called a "perspective on the past-present." This is only one part of a much larger story.

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[77] Leopold Eidlitz, "The Vicissitudes of Architecture," in *The Architectural Record* (New York: McGraw-Hill, 1892), 474.
[78] Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Alfred A. Knopf, 1970), 19.
[79] "The doubling back of the will onto itself indicates its 'nihilism': it pursues no end, it develops onto itself to the point of the most complete irreality." Haar, *The Song of the Earth*, 82.
[80] Herbert Dreyfus, "Heidegger on the Connection between Nihilism, Art, Technology and Politics," in *The Cambridge Companion to Heidegger*, 2d ed., ed. Charles B. Guignon (New York: Cambridge University Press, 2006), 358.

Technological imperatives also influenced how modern architects imagined the machine aesthetically. I will address this issue in the next chapter by looking at the machine in modern architecture and its literary heritage.

CHAPTER 2:
MACHINE AESTHETIC AND ITS LITERARY HERITAGE

> Just as the ancients drew the inspiration for their art from the elements of nature, so we – being materially and spiritually artificial – must find this inspiration in the elements of this totally new mechanical world, which we have created.[1]

While a machine is not necessarily architecture, architecture almost always involves some kind of machine, whether a physical implement on a job site or a metaphor that sparks thinking. Its impact, particularly in modernism, has been considerable. Alan Colquhoun notes, "A revaluation of the significance of artistic expression in a world revolutionized by the machine has been, consciously or unconsciously, at the root of all the avant-garde movements of the last fifty years."[2] The machine and its effects were believed to be so radical that its name was given to the age. Le Corbusier, for one, deemed it more powerful than war as an agent of social change. "Every machine is a spiritualization of an organism," said Theo van Doesburg. "The machine is, par excellence, a phenomenon of spiritual discipline. … The new artistic sensibility of the twentieth century has not only felt the beauty of the machine, but has also taken cognizance of its unlimited expressive possibilities for the arts."[3]

Throughout most of architectural history, utility and form were secondary to metaphysical significance. These metaphysical aspects – auguries, myth, divinities, and wonder – had resisted a fully-fledged technology. A reversal occurred when machines were co-opted by the technological concerns of the will to will and by calculative thinking. This was part of modernity's challenge to the traditions of antiquity during the eighteenth and nineteenth centuries. This challenge was accompanied by the rise of aesthetics, in which everything was seen "aesthetically." Even architecture was drawn into this attitude, which makes possible "aesthetic differentiation." Aesthetics casts a distancing gaze that "turns buildings into pictures."[4] When these two forms of currency –

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[1] Antonio Sant'Elia, "Manifesto of Futurist Architecture," *Lacerba* (1 Aug. 1914).
[2] Alan Colquhoun, "The Modern Movement in Architecture," in *Essays in Architectural Criticism: Modern Architecture and Historical Change* (Cambridge, MA: MIT Press, 1985), 21.
[3] Theo van Doesburg, unpublished manuscript quoted in Charles Jencks, *Modern Movements in Architecture* (Garden City, NY: Doubleday Anchor, 1973), 32–3.
[4] Hans-Georg Gadamer, *Truth and Method* (London: Sheed and Ward, 1985), 78. Because of the aesthetic attitude, works of art lose their place in the world. This is reflected, Gadamer argues, in

function and form – became the primary concerns of architects, the earlier cultural practice of construing and constructing imaginative machines soon disappeared from the profession.[5] This tradition did not pass away gracefully, however; it was reborn screaming in the domains of literature and the arts.[6]

Some writers, such as Colquhoun, believed that machines in the allied arts do not warrant serious attention. "In literature, music, and painting," he says, "the machine, as a direct protagonist, has played an intermittent and often purely picturesque role."[7] This is a rather "non-judgemental" understanding of the machine. His materialist bias led him to view the machine in the arts as merely an adjunct to more substantive concerns; however, this disregards its larger role. The artist Francis Picabia described the depth of modernity's mechanistic interest:

> The machine has become more than a mere adjunct of life. It is really a part of human life … perhaps the very soul. In seeking forms through which to interpret ideas or by which to expose human characteristics I have come at length upon the form, which appears most brilliantly plastic and fraught with symbolism. I have enlisted the machinery of the modern world, and introduced it into my studio.[8]

Whereas Reyner Banham recognized the machine's impact in the arts – recent works by Picabia, Duchamp, Léger, and Marinetti – as a key to the development of the modernist machine building for architects such as Le Corbusier. He was less inclined to acknowledge earlier examples: "In any case, such a concatenation of mechanistic images seems to be without precedent in European literature at the time."[9] To be fair, he did not

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"the artist also losing his place in the world." Thus "the idea of the bohemian which arose in the nineteenth century reflects this process." Gadamer, *Truth and Method*, 78–9.

[5] The shift in architectural discourse towards instrumentality can be traced to a line that extends from the rationalist theory of Claude Perrault (1613–1688) and its subsequent exaggeration in the hedonistic and almost purely instrumental value system proposed by Jean-Nicolas-Louis Durand (1760–1834). For a thorough examination of these watershed moments see Alberto Pérez-Gómez, *Architecture and The Crisis of Modern Science* (Cambridge, MA: MIT Press, 1985).

[6] This follows the flight of true philosophy into the novel, which became a necessity following Immanuel Kant's *Prolegomena to Any Future Metaphysics* (1783), which stated that any valid philosophy must speak the language of mathematical logic; otherwise, it would be speculative and would not merit inclusion in the quest for true knowledge. This forced true philosophy to be worked out elsewhere, such as in the work of Marcel Proust.

[7] Colquhoun, *Essays in Architectural Criticism*, 21.

[8] Francis Picabia, "French Artists Spur on American Art," *The New York Times* (24 Oct. 1915).

[9] Reyner Banham, *Theory and Design in the First Machine Age* (Cambridge, MA: MIT Press, 1980), 104.

entirely overlook earlier periods, noting that a mechanical orientation had been evident in an unnamed elsewhere. Despite this historical oversight, he did recognize the new ideological position regarding the machine.[10] He noted that this was evident in the Futurists' writings:

> The qualities which made Futurism a turning-point in the development of Modern theories of design were primarily ideological, and concerned with attitudes of mind, rather than formal or technical methods - though these attitudes of mind were often influential as vehicles in the transmission of formal and technical methods which were not, in the first place, of Futurist invention.[11]

This statement points out the need to emphasize the underlying technological intentions rather than just the aesthetic issues. To pursue this, I will explore various strains of the machine to witness it becoming an aesthetic object, starting in architecture, then moving into literature. Literature is an appropriate domain to examine because the machine aesthetic developed there earlier than in architecture. It also expressed issues that were typically overshadowed by the iconographic shift from historicist associations to white crystalline boxes. The machine tradition also appeared in literature with more clarity than in architecture, so a literary study will enable it to be discussed more concisely.

MACHINE AESTHETIC IN ARCHITECTURE

As noted at the end of Chapter 1, the functional approach to the architectural machine was wedded to progress, seeking mathematical rapture and yielding ever more efficient ejaculates. It privileged the material and constructive aspects of practice, which could be willed into existence and then controlled. Hannes Meyer, in a short passage from "Building," linked the machine to these technical criteria:

> all things in this world are a product of the formula: (function times economics) so none of these things are works of art: all art is composition and hence unsuited

[10] As Colquhoun notes, Banham "probably exaggerates this influence." Colquhoun, *Essays in Architectural Criticism,* 23. The Futurists' "fervor [for technology] in this regard must be seen as, among other things, a displacement of that of their Viennese predecessors, the artists of the Secession and the Jugendstil who had located theirs in the anti-technological individuality of the artistic gesture." George Baird, *The Space of Appearance* (Cambridge, MA: MIT Press, 1995), 60.

[11] Banham, *Theory and Design,* 99.

> to a particular end. all life is function and therefore not artistic. … building is biological process. building is not an aesthetic process. in its basic design the new building house becomes not only a piece of machinery for living in but also a biological apparatus serving the needs of body and mind. – the modern age provides new building materials for the new ways of building houses. … architecture as an "embodiment of the artist's emotions" has no justification. architect as "continuing the building tradition" means being carried on the tide of building history.[12]

There was a general sense that the imperatives of the machine would eliminate waste and perhaps standardize the resulting works through processes (or a "formula"). "The creations of machine technology," Le Corbusier said, "are organisms tending towards purity and subject to the same evolutionary rules as are natural objects that arouse our admiration" (see fig. 2.1).[13] This was essentially Darwin applied to a utopian trust in the mechanization of industry. It depended on the ability of industrial (i.e., technological) practice to rationalize the sphere of work, including its people. Easing a worker's burden could lead to improved conditions for both work and leisure. "Machines," argued Loos, "belong at work."[14] Loos found this idea in his ideal Englishman – an idea that had already been articulated by William Morris, who had pointed to the threshold where mechanical labour becomes "too mechanical."[15]

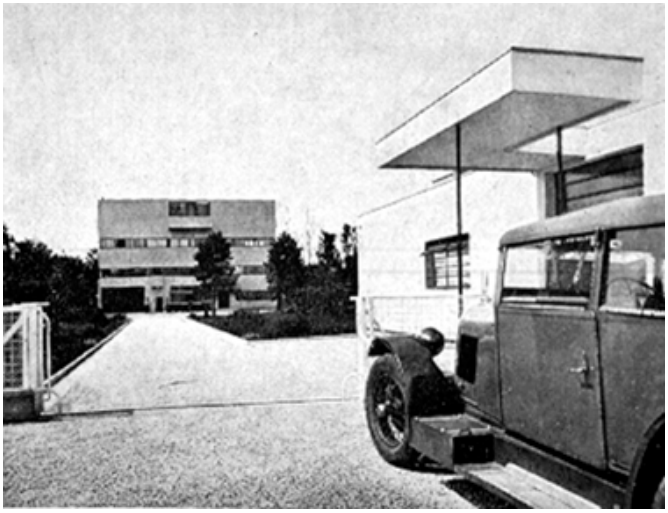

Fig. 2.1 Villa Stein, Garches, France (1927)

[12] Hannes Meyer, "Building," in Claude Schaidt, *Hannes Meyer: Buildings, Projects and Writings* (London: Alec Tiranti, 1965), 95.
[13] Le Corbusier, *Towards an Architecture*, trans. John Goodman (London: Frances Lincoln, 2008), 158.
[14] Adolf Loos, *Ornament and Crime: Selected Essays*, trans. Michael Michell (Riverside, CA: Ariadne Press, 1998), 76.
[15] William Morris, "The Prospects of Architecture in Civilization," in *The Collected Works of William Morris*, ed. May Morris (London: Longmans, Green & Co., 1910–15), 22:143.

Many realized that the machine was "going to give the face of the planet the unique shape of the mind," so it was important to understand its limits.[16] For some, machine organization alone was not enough. Le Corbusier thought that the machine needed to be "raised to a conscious level – in fact, to become architecture – before it can truly serve and represent man."[17] It must be "humanized and filled with philosophy and art, which are truly human realms."[18] In this context, the word "harmony" was often used. Although harmony suggests higher aspirations, it could be associated with technological imperatives. Le Corbusier suggested that harmony has "reasons" that are expressed by "construction that is logical": a "function of labor governed by *economy* and conditioned by the inevitability of physics."[19] He believed that harmony was found in the "creations of machine technology" that "come from the workshop and the factory."[20] Like the "aesthetic of the engineer," it addressesed physical necessities and defined functional criteria. In turn, the machine was "fundamental to the development of new forms and the evolution of aesthetic theory."[21]

In early modernism, buildings began to be described as machines, and sometimes even abstractly resembled them. Automobiles, airplanes, ocean liners, and industrial buildings such as grain silos and factories became common references. Le Corbusier favoured the ocean liner (see fig. 2.2). If we "look at it with new eyes," he says, "we will sense that we stand before an important manifestation of temerity, discipline, and harmony, a beauty that is calm, vigorous, and

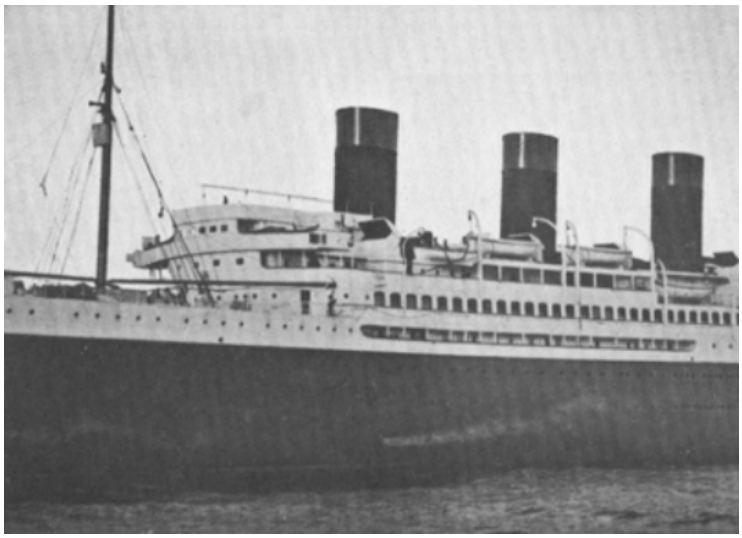

Fig. 2.2 Ocean liner

[16] Élie Faure, *Oeuvres complètes*, 3 vols. (Paris: Pauvert, 1964), 2:15.
[17] Colquhoun, *Essays in Architectural Criticism,* 63.
[18] Ibid.
[19] Le Corbusier, *Towards an Architecture*, 158.
[20] Ibid.
[21] Colquhoun, *Essays in Architectural Criticism*, 21.

strong."[22] It is "an example of its very principles at work and is thus a valid model of architecture."[23] This model and its image seemed to offer a technologically oriented way of life. It relied on "scientific principles" and provided for "all the requisites of communal life." It also suggested emancipation from traditional practices because it was independent from everything but its internal operation and the open sea. Ultimately, he regarded the ocean liner as a way to leave behind our "cursed enslavement to the past."[24] This sentiment was not entirely new. In 1888 Emile Zola's fictional character Claude Lantier envisioned the arrival of a new century and a new architecture:

> If there ever was a century in which architecture should have a style of its own, it was the century about to begin. … Down with Greek temples, there was no use for them in modern society! Down with Gothic cathedrals – belief in legends was dead! Down with the Renaissance … it would never house modern democracy! What was wanted was an architectural formula to fit that democracy, … something big and strong and simple, the sort of thing that was already asserting itself in railroad stations and market halls, the solid elegance of metal girders.[25]

Like Le Corbusier's ocean liner, "big and strong and simple" expressed the promise of the machine to produce an architectural shift in accordance with the new age. It also symbolized "objective design" that would minimize a designer's capriciousness by reducing the range of choices among increasingly standardized elements. Le Corbusier declared that expression should be limited because "the realistic object of utility is most beautiful."[26] The aesthetic then would reflect "a world organized in accordance with the new spirit": a world that is fundamentally calculative and is conscious of its own modernity. These ideas are complex and need to be clarified.

ORNAMENT

Issues of ornamentation can illuminate architects' efforts to develop an aesthetic of necessity based on the machine. The modern machine, described by Meyer and

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[22] Le Corbusier, *Towards an Architecture*, 158.
[23] Colquhoun, *Essays in Architectural Criticism*, 63. Le Corbusier is indeed a complex figure and warrants more attention than I can give here. My reading is meant as a general view of the context in which others were working and reacting.
[24] Ibid.
[25] Emile Zola, *The Masterpiece* (Ann Arbor, MI: University of Michigan Press, 1968), 138.
[26] Le Corbusier, *The Decorative Art of Today*, trans. James Dunnett (Cambridge, MA: MIT Press, 1987), 187–8.

developed by Le Corbusier, did not beg the question of how it should be decorated. Still, the growing possibilities (real or imagined) brought on by industrial mechanization led to such questions around the turn of the century (see fig. 2.3). To some people, ornament seemed pointless. Does an electric dynamo really warrant Doric or Egyptian detailing? To challenge earlier practices, ornamentation had to be reappraised.

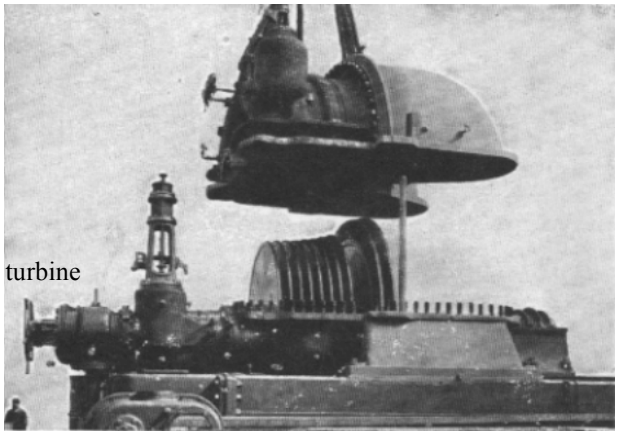

Fig. 2.3 Electric turbine

Le Corbusier stated, "We are told that decoration is necessary to our existence. Let us correct that: art is necessary."[27] He advocated "a disinterested passion that exalts us."[28] "Forms" would "arouse" emotions that "suddenly … touch my heart" with plasticity revealed "in light." He added, "To see things clearly, it is sufficient to separate the satisfaction of disinterested emotion from that of utilitarian need."[29] Forms have no content or situational alliances. This suggests a fully subjective aesthetic: art for art's sake.[30] This attitude is distant from the building of a symbolic and communicative space. Karsten Harries outlines the ramifications:

> A consequence is that divorce of utility and beauty, business and art, which insists that "business is business," thus at the same time welcomes those who would pursue "art for art's sake"; what it questions is only the confusion of the two spheres. Ornament is rejected precisely insofar as it represents just such a confusion. In this sense the modern rationalization of the "business" of life demands the death of ornament. … It does not demand, however, the death of art. Quite the contrary: by insisting on the divorce of utility and beauty it frees art to be truly itself. Ornament gives way to art, an increasingly private art that keeps its distance from ordinary life and becomes truly autonomous.[31]

This is evident in the writing of Adolf Loos: "The evolution of culture is synonymous with the removal of ornamentation from objects of everyday use." "We have

[27] Ibid., 85.
[28] Ibid.
[29] Ibid.
[30] The phrase "l'art pour l'art" is actually of German coinage. Fredrick Burwick, *Mimesis and Its Romantic Reflections* (University Park, PA: Pennsylvania State University, 2001), 17–19.
[31] Karsten Harries, *The Ethical Function of Architecture* (Cambridge, MA: MIT Press, 1997), 43–4.

gone beyond ornament, we have achieved plain, undecorated simplicity … Ornament is no longer a source of pleasure." Unlike the pleasure native people receive from tattoos, he explained, modern society "strain[s] under the yoke of ornament." Additionally, "ornament is no longer a natural product of our culture, but a symptom of backwardness and degeneracy."[32] Ornament is "no longer an expression of our culture" and it "bears no relationship to us, nor to any human being, or to the system governing the world today."[33] The machine offered "the means of rescuing architecture from the false rhetoric into which it was thought to have degenerated in the nineteenth century."[34]

Still, the application of technology to full fledged mass production was only an idea and not yet a reality. Chairs, "machines for sitting in," were intended to be mass-produced but in fact were manually intensive. Mass production was largely an aspiration during the early years of modernism. Bauhaus furniture was made by hand in the shop. The furniture that Le Corbusier produced with Charlotte Perriand "was complicated in terms of construction and therefore required considerable hand-assembly."[35] In reality, the iconography of machine technology was a fantasy:

> Functionalism, the effort to reconcile mechanization with fantasy and persuasion, was one of the most complex developments in modern culture and played multiple roles. It can be found impersonating consumption, political legitimization as well as critical practice. In all these cases it created buildings which were "as if" machines. Through an intricate iconographic system it practiced fantasy and persuasion dressed up in the clothes of an impostor mechanization. It is a well known fact by now that with functionalism ornaments were stripped away so that the building itself could become an ornament. Straight lines, right angles and grid patterns cutting the spaces of the building with a jeweler's delight gave the appearance of an analytical rationality in construction and operation. The free curves and regular irregularity seem to grow organically out of the great machine of nature. Cubes, prisms, and cylinders were used in parceling space to make it look as if it were an assemblage of machine parts. Colored, polished, chopped and tinted plaster and plywood served as camouflage devices in order to imitate machine made materials.[36]

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[32] Loos, *Ornament and Crime*, 171.
[33] Ibid.
[34] Colquhoun, *Essays in Architectural Criticism*, 63.
[35] Susan Lambert, *Form Follows Function?* (London: Victoria & Albert Museum, 1993), 22.
[36] Liane Lefaivre and Alexander Tzonis, "The Machine in Architectural Thinking," *Daidalos* 18 (1985): 25–6.

But it is inappropriate to call modernist work "fantasy" and end there. Even fictional constructions can have varied orientations. It is important to look beyond the immediate fantasy to discern its fuller intentions. To do this, I will now shift to a literary context. This is warranted not only by the fictional nature of the modernist machine but also because literature has a profound resonance with the role of the architect:

> It [the textual impulse] has also to do, and mightily, with building, making other spaces for the mind to dwell in. In particular, *poeisis*, or the making of things, makes and keeps relations of all kinds, so that poetry is both building and holding together. So poetry converses – on some deep level – with architecture by the relational questions both involve, to which they extend some structural replies, more open than answers. These replies then reach towards living space, at least in metaphor.[37]

LITERARY HERITAGE

Distinctions must be made between the modern instrumental machine (discussed in the previous chapter) and the imaginative machine of literature. The instrumental machine typically was understood as a material entity that participated in the practical affairs of life. The literary machine, on the other hand, was essentially linguistic, non-instrumental, and not directly involved in human habits. Still, both were modes of expression and products of the will. In history, the same distinction was not always evident, as some literary practices had been conceived as instrumental machines: in particular, utopian writings that sought to control things to enhance their usefulness and clarity.[38] The instrumental literary machine proselytized on behalf of a cause.

Like these pre-modern examples, certain modern literary machines relied on making (*poiesis*), poetic language, and relations to a broader situation, as we shall see.[39] This is how the mechanisms of Alfred Jarry and certain modernist architects will be discussed in the coming chapters. These machines were not simply representations,

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[37] Mary Ann Caws, *The Art of Interference* (New York: Princeton University Press, 1989), 228.
[38] This has been described as the "totalitarian" nature of technological practices. Jacques Ellul, *The Technological Society* (New York: Vintage Books, 1967), 125.
[39] Carl Mitcham, "Philosophy and the History of Technology," in *The History and Philosophy of Technology*, ed. George Bugliarello and Dean B. Doner (Urbana, Chicago, and London: University of Illinois Press, 1973), 182.

codes, equations, or signs; they created shared understanding as Vattimo describes it.[40] They imagined a world that is open and suggestive, rather than internalized, calculative, and autonomous.

Historically, Jarry was not alone in his interest in mechanisms. From the late Palaeolithic cave drawings of mammoth traps to contemporary dreams of nanotechnology, machines both literal and figurative have fascinated the sciences and the arts. In early modern literature, however, the machine had become marginalized, often as "science fiction," but according to Jarry, this literature was "not absurd" but "possible." In France it became a topic for exploration sometime after 1850, in the wake of the proliferation of instrumental technology, the growing regard for the machine in everyday life, and, as Jarry put it, "a universal substitution of Science for Art." Accordingly, the art and literature of the machine became abundant, varied, and diffuse.

In *Victorians and the Machine*, Herbert L. Sussman argues that two changing attitudes enabled the machine to become a new topic of interest in the nineteenth century. The first sought to "celebrate the machine in a language and through a set of values derived from the machine itself."[41] These values were emancipatory and utopian. They followed the engineering tradition in which the machine operated independently, without reference or being influenced by its particular situation. The machine was revered for solving human problems, such as shortages of water and food. Progress was reflected in the growing power, optimization, and status of the machine, symbolizing the modern human triumph over inhospitable nature. This change occurred largely because of the utopian social and political writings of the Saint-Simoniens in the 1830s and 1840s.[42] Inspired by the technocratic socialism of Henri de Saint-Simon (1760–1825), his followers proposed a political and social system of universal brotherhood in which men of technology and science would lead a regeneration of society. Their writings had a significant impact on the popularity of technology among many writers and thinkers, such as the poet Maxime Du Camp. In *Les chants modernes* (1855) he argued for a

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[40] Gianni Vattimo, *Art's Claim to Truth*, trans. Luca D'Istanto (New York: Columbia University Press, 2008), 45–8.
[41] Herbert L. Sussman, *Victorians and the Machine: The Literary Response to Technology* (Cambridge, MA: Harvard University Press, 1968), 7.
[42] Claude-Henri de Saint-Simon, *Oeuvres de Claude-Henri de Saint-Simon*, 6 vols. (Paris: Anthropos, 1966).

modern form of writing that would reflect its time, instead of relying on older models. In particular, he believed that art should mirror current science and technology.[43]

This thoroughly modern attitude towards literature did not appear overnight. It had been somewhat evident in the Renaissance, as "the transformational power of technology" began to reshape society.[44] The growing utopian attitude was also behind the seventeenth-century *Querelle des Anciens et des Modernes*, which had a profound impact on subsequent artistic thinking.[45] When the moderns, such as Charles and Claude Perrault, argued that their knowledge surpassed that of the ancients, they questioned traditional authority and looked forward to the future. According to Charles Perrault, "Learned Antiquity, through all its extent, was never enlightened to equal our times."[46] This faith in progress became a topic in modern literature in select works by a group of writers, including H.G. Wells, Jules Verne, Émile Zola, and Louis Figuier. With its technophilic emphasis on "heroes of science," for instance, Figuier's *Le Théâtre scientifique* was dedicated to the progress of human society.[47]

According to Sussman, a second group had misgivings about the mechanical trends they were witnessing in the industrial society and landscape. Their belief that humanity needed to escape the "ugliness" of the machine was illustrated by William Blake's "dark satanic mills" and by W.B. Yeats's denunciation of the "mechanical" as "servile." By describing this "ugliness" in full detail, they criticized mechanistic attitudes towards nature, society, and humankind. "Modern society," declared Émile Zola, "is racked without end by a nervous irritability. We are sick and tired of progress, industry, and science."[48] This led some of them to point a finger at the industrial machine as an agent of moral and artistic decadence. What the machine had co-opted, they argued,

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[43] Maxime Du Camp, *Les chants modernes* (Paris: M. Lévy frères, 1855).
[44] Jonathan Sawday*, Engines of the Imagination: Renaissance Culture and the Rise of the Machine* (London and New York: Routledge, 2007), xvii.
[45] Hubert Gillot, *La Querelle des Anciens et des Modernes en France: De la Défense et Illustration de la langue française aux Parallèles des anciens et des modernes* (Paris: Champion, 1914). Joan DeJean, *Ancients against Moderns: Culture Wars and the Making of a Fin de Siècle* (Chicago: University of Chicago Press, 1997).
[46] Charles Perrault, "Le siècle de Louis le Grand," in *Memoires, contes et autres oeuvres de Charles Perrault* (Paris: Librairie de Charles Gosselin, 1842), 322.
[47] Louis Figuier, *Le Théâtre scientifique* (Paris: Dentu, 1882).
[48] Emile Zola, cited in Frantz Jourdain, "Que pensez-vous de l'architecture moderne?," *Revue des arts décoratifs* 16 (1896): 95.

actually exceeded the limits of the mechanistic conception. One example was the biting satire of Charles Cros's *La science de l'amour* (1874). In this work he set out to explore love: not like Don Juan, but as a distanced man of science who employed all sorts of gadgets, including a *compteur pour baisers* [counter for kisses]. His objective machines absurdly quantified the process of falling in love, as if love could be detected from standard, measurable signs. Unlike the first group, this second group in select works emphasized the darker side of technology and its impact on society. Henry David Thoreau, for instance, noted "the noise of the trains as they passed by Walden Pond."[49] This group included diverse works such as Edgar Allen Poe's *The Pit and the Pendulum* (1842), Mary Shelley's *Frankenstein* (1818), Samuel Butler's *Erewhon* (1872), and Karel Capek's *R.U.R.* (1921).[50]

It should be noted that each group displayed many variations in their attitudes towards the machine. It is also possible to recognize a third group that used technology in a less judgemental way: as fodder for literary imagery, *mise-en-scène*, and various tropes. This group is much broader as authors seem to move in an out of it, including Flaubert, Hugo, Villiers de l'Isle-Adam, and many others. Certain passages in the work of James Joyce offer strong examples.[51] Although the attitude of this third group fluxuated, it was neither positive nor negative. It was not entirely neutral, either.

The growing popularity of the machine aesthetic promoted a belief that it had been "discovered" during the second half of the 1800s.[52] This development in aesthetics

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[49] Henry David Thoreau, cited in William Sharpe and Leonard Wallock, eds., *Visions of the Modern City* (New York: Columbia University Press, 1983), 44.

[50] As an aside, the architect Frederick Kiesler designed an "electro-mechanical" stage for the performance of Capek's *R.U.R.* in Berlin in 1923. He will reappear later in the conversation.

[51] In *Ulysses* Stephen Daedalus sees a midwife with a bag and uses the image of a phone as a mystical link back to Eden, "What has she in the bag? A misbirth with a trailing navelcord, hushed in ruddy wool. The cords of all link back, strandentwining cable of all flesh. That is why mystic monks. Will you be as Gods? Gaze in your omphalos. Hello. Kinch here. Put me into Edenville. Aleph, alpha: nought, nought, one." Carl Mitcham and Timothy Casey, "Toward an Archeology of the Philosophy of Technology and Relations with Imaginative Literature," in *Literature and Technology: Research in Technology Studies*, vol. 5, ed. Mark L. Greenberg and Lance Schachterle (Bethlehem, PA: Lehigh University Press; London and Toronto: Associated University Press, 1992), 57. James Joyce, *Ulysses* (New York: Random House, 1961), 37–8.

[52] Jacques Noiray, *Le Romancier et la machine: L'image de la machine dans le roman français (1850–1900)*, vol. 2: *Jules Verne et Villiers de L'Isle-Adam* (Paris: José Corti, 1982), 7–28. Noiray positions the acceptance of the machine aesthetic in France around 1880. Sussman, *Victorians and the Machine*, 1–12.

coincided with the expanding role of the machine in everyday life and the consolidation of a modern world-view. These changes were motivated by new concepts of the human will, the development of technology proper, and the "mathematization of praxis," aided by Monge's descriptive geometry. By producing highly visible material results, the machine displayed its productive role in science and engineering and became the standard measure for progress. At the same time, it marginalized metaphysical concerns and destabilized human perception.

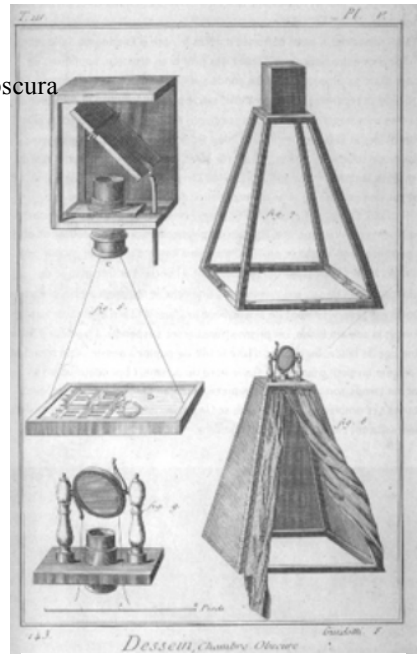

Fig. 2.4 Camera obscura

Jonathan Crary describes this development as the "modernization of the observer": a process that "involved the adaptation of the eye to rationalized forms of movement … and was possible only because of an increasing abstraction of optical experience from a stable referent" (see fig. 2.4).[53] These "models of subjective vision" countered the non-subjective tactile models of the seventeenth and eighteenth century. Vision eventually would be relocated in the subjective (and mobile) observer. Thus, "the guarantees of authority, identity, and universality … are of another epoch."[54] Many optical machines brought about this condition, as Crary shows. They cleared a path "toward all the multiple affirmations of the sovereignty and autonomy of vision."[55] In other words, worldly entities such as the machine could become objects of personal taste because the subject was the seat of preferences. Still, this new subjective vision was relegated to a lower philosophical status than logic, reason, and the human will.

These aesthetic premises can be traced back to the eighteenth century, when Alexander Baumgarten defined modern aesthetics as the science of "things perceived," whereas logic was the science of "things known." Logic, of course, was superior. As a

[53] "Thus one feature of modernization in the nineteenth century was the 'uprooting' of vision from the more inflexible representational system of the camera obscura." Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1991), 113.
[54] Ibid., 24.
[55] Ibid., 150.

separate domain, aesthetics could be a subjective matter of personal taste. This was predicated on Cartesian biases (or misconceptions) about the place of humans in the world, how that world operates, and what constitutes knowledge. Gianni Vattimo contends that this division "assigns a negative meaning to aesthetic experience, defined only as something that does not possess the character of 'real' experience."[56] He suggests that "real" pertains only to *res cogito* and not to *res extensa* (i.e., the body in which an "I" resides). This cuts it off from any claims to truth. As a result, aesthetic work has become autonomous: "art for art's sake." It is largely disengaged from knowledge or cultural dialogue, and demands to be perceived and judged as an autonomous object. "The aesthetic experience," Gadamer notes, "is supposed to be directed towards the work proper – what it ignores are its extra-aesthetic elements, such as purpose, function, the meaning of its content. These elements may be significant enough inasmuch as they place the work in its world and thus determine the whole meaningfulness that it originally possessed."[57] Any aesthetic (including the machine aesthetic) is inherently disconnected from a shared realm of meaning. In other words, autonomous aesthetics is simply the obverse of autonomous technology.

Some artists and writers promoted the aesthetic approach by embracing the new terminology and by creating aesthetic works uncritically. This is not entirely negative. Attention to the machine opened up a new, abstract way to see the world, by focusing on the machine's formal properties. The poet Walt Whitman wrote about the aesthetics of the locomotive:

> Thy black cylindric body, gold brass and silvery steel,
> Thy ponderous side-bars, parallel and connecting rods, gyrating, shuttling at thy sides,
> . . . . . .
> Type of the modern – emblem of motion and power – pulse of the continent,
> For once come serve the Muse and merge in verse, even as here I see thee,
> . . . . . .
> Fierce-throated beauty![58]

H.G. Wells, whom Jarry called "today's master," wrote:

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[56] Vattimo, *Art's Claim to Truth*, 144.
[57] Gadamer, *Truth and Method*, 77.
[58] Walt Whitman, "To a Locomotive in Winter," in *Leaves of Grass* (Boston: Small, Maynard & Co., 1904), 359.

> There is nothing in machinery, there is nothing in embankments and railways and iron bridges and engineering devices to oblige them to be ugly. Ugliness is the measure of imperfection; a thing of human making if for the most part ugly in proportion to the poverty of its constructive thought, to the failure of its producer fully to grasp the purpose of its being … with a continuing desire to do as well as they can, grows beautiful inevitably.[59]

Fig. 2.5 Umberto Boccioni, *The City Rises* (1910)

The growing admiration for the machine as an aesthetic object expressed many of the same qualities as the functional machine: rational clarity, optimization, and progress. This was proclaimed vividly in the literature of the Italian Futurists. Filippo Tommaso Marinetti, the primary voice of Futurism, exalted the potential of technology, echoing the Belgian poet Émile Verhaeren's declaration, "Future, you exalt me as once my God exalted me!" The Futurist Manifesto was preceded by a poetic description of the events that led to its writing, as well as some indications of minor resistance. "We had stayed up all night, my friends and I, under the hanging mosque lamps with domes of filigreed brass, domes starred like our spirits, shining like them with the prisoned radiance of electric hearts."[60] The text exudes darkness and exotic luxury, like Marinetti's Milan apartment. They descended into the streets of Milan, a city with an ancient past, which had been modernized considerably around the turn of the century (see fig. 2.5). They heard the noise of double-decker buses, saw the bright lights of the modern city, and jumped into their cars. "We're about to see the Centaur's birth and, soon after, the first flight of Angels! … We must shake the gates of life, test the bolts and hinges. Let's go! Look there, on the earth, the very first dawn!" He highlighted features for their manifesto, including the chaos, beauty, aggression, and violence of the speeding machine. "We say that the world's magnificence has been enriched by a new

[59] H.G. Wells, *A Modern Utopia* (Charleston, SC: BiblioBazaar, 2008), 86.
[60] Filippo Tommaso Marinetti, "Founding and First Manifesto of Futurism," in *Marinetti: Selected Writings*, ed. R.W. Flint, trans. R.W. Flint and Arthur A. Coppotelli (New York: Farrar, Straus and Giroux, 1972), 39.

beauty: the beauty of speed. A racing car whose hood is adorned with great pipes, like serpents of explosive breath … is more beautiful than the *Victory of Samothrace*."[61]

The French Symbolist leanings are unmistakable in Marinetti's analogies between the machine and these mythical or monstrous creatures: "centaur," "angel," and "serpent." Still, his imagery was less cryptic, polyvalent, and suggestive than his Symbolist forbearers, including his friend Jarry.[62] The metaphors were a means to "evade confronting the machine as aesthetic object." As Sussman notes, writers often adopted "the machine as tenor rather than vehicle, the innumerable comparisons of locomotives to horses and dragons, exemplifies this inability to see the machine as a visible object with its own unique aesthetic qualities."[63] Although Sussman seems to lament this hesitancy, there was still a "reflexive relationship" between the machine and a hopeful future.[64]

Any lingering resistance to a full-blown machine aesthetic did not last long. The Symbolist movement was the token father who had to be overcome. "We reject our masters the Symbolists," Marinetti wrote, "the last lovers of the moon." "You will easily understand why we hate our glorious intellectual fathers … after having loved them so much. … For them there was no poetry without nostalgia, without evoking past times, without the fogs of history and legend. We hate the symbolist masters, we who dared to enter naked the river of time."[65]

The Futurists fully embraced the autonomous aesthetic. "[W]e are developing and proclaiming a great new idea that runs through modern life: the idea of mechanical

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[61] Ibid., 41.

[62] As a young man living in Paris, Marinetti frequented late Symbolist circles and knew Alfred Jarry personally. The two men attended common gatherings and even briefly corresponded. Marinetti described Jarry as "the most threadbare genius in the world." Jarry's impact on the younger Italian was evident in Marinetti's first play, *Le Roi Bombance* (1909), which was based on *Ubu Roi* (1896) and was produced for the stage the same year as the Futurist Manifesto was published in Paris. The two works have similarities in their language and ostensible attitude. Both were greeted with outrage during their opening performances. Marinetti also published two of Jarry's essays in his magazine, *La Poesia*.

[63] Sussman, *Victorians and the Machine*, 228. Although Sussman's scholarship focused on Victorian England, it can be applied to other contexts with reservations about the machine.

[64] Tim Benton, "Dreams of Machines: Futurism and l'Esprit Nouveau," *Journal of Design History* 3, no. 1 (1990): 24.

[65] F.T. Marinetti, "Manifeste du Futurisme," *Le Figaro* (20 Feb. 1909), 1.

beauty."[66] A passage from *Le Futurisme* (1912) demonstrates the shift to the aesthetics of the machine, to heroic engineers

> who live in high tension chambers where a hundred-thousand volts flicker through great bays of glass. They sit at control panels with meters, switches, rheostats and commutators to right and left, and everywhere the rich gleam of polished levers. These men enjoy, in short, a life of power between walls of iron and crystal; they have furniture of steel, twenty times lighter and cheaper than ours. They are free at last from the examples of fragility and softness offered by wood and fabrics with their rural ornaments. … Heat, humidity and ventilation regulated by a brief pass of the hand, they feel the fullness of solidity of their own will.[67]

This passage shows the link between the machine aesthetic and the historic possibility of the human will, an intrinsic part of instrumental technology.[68] Modernity brought attention to a maker's creative will. Marinetti's heroic engineers "feel the fullness of solidity of their own will." Hannah Arendt notes, "[I]t was not till the last stage of the modern age [the turn of the nineteenth century] that the Will began to be substituted for Reason as man's highest mental faculty."[69] This sense of the will is troubling. "On the day when man will be able to externalize his will," there is promise for him to "master and reign over space and time."[70] It is then about control and transformation. This makes the faculty of the will the "faculty of the future" and a "harbinger of novelty," according to Arendt.[71] To have such a view of the world, one must be able to objectify it. What is really at stake, Dalibor Vesely explains, is that modernity

> had been established on a deep and cultivated sense of identity between the creative will of the individual artist and the accepted relativity of history, in a process which had thus far gone uninterrupted and did not change in principle. The conventional understanding of modernity as a rejection of historicism is therefore erroneous. Modernity is only a step toward a more radical form of

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[66] Marinetti, "Multiplied Man and the Reign of the Machine," in *Marinetti: Selected Writings*, 90.
[67] Marinetti, quoted in Banham, *Theory and Design*, 125.
[68] "To say technology as the 'will to will' implies that present reality prolongs and realizes what metaphysics has already thought under the concept of will." Michel Haar, *The Song of the Earth: Heidegger and the Grounds of the History of Being*, trans. Reginald Lilly (Bloomington: Indiana University Press, 1993), 82.
[69] Hannah Arendt, *Life of the Mind*, vol. 2: *Willing* (New York: Harcourt Brace Jovanovich, 1978), 20.
[70] Marinetti, "Multiplied Man and the Reign of the Machine," 90.
[71] Arendt, *Life of the Mind*, 18.

> historicism. What appears to be a pronounced difference in architectural style is only a difference in how the argument is couched, as varying degrees of confidence determine to what extent history and historical "material" is accepted or ignored.[72]

So, even if the modernist machine is truly a fiction, one must not presume that it tells a neutral story. In fact, it may not be so different from the Saint-Simoniens' utopian technological writings. Despite its stark shift in architectural iconography, the Futurist machine aesthetic is really just another stage in a single line of thought. Therefore, neither side of the machine dichotomy (form or function) is satisfactory. Both form and function operate according to the same Cartesian position, "derived from the machine itself." In other words, the values of this position (tacit or otherwise) are actually extensions of a dominant form of thinking that places the capacity of technology and practices that take on its imperatives in the foreground for the sake of production, innovation, or as an object to be admired.

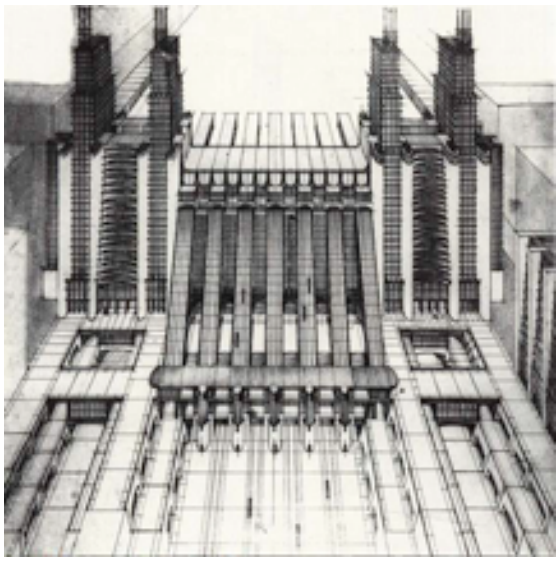


Fig. 2.6 Antonio Sant'Elia, *Stazione d'aeroplani e treni ferroviari con funicolari e ascensori su tre piani stradali* (1914)

Banham, for instance, falls into the seductive trap set by technological imperatives. Recognizing the central role of the machine in architecture, he couches his view in an instrumental conclusion at the end of his book, *Theory and Design in the First Machine Age*: "It may well be that what we have hitherto understood as architecture, and what we are beginning to understand of technology, are incompatible disciplines."[73] He continues, "The architect who proposes to run with technology knows now that he will be in fast company, and that, in order to keep up, he may have to emulate the Futurists and discard his whole cultural load, including the professional garments by which he is recognized as an

[72] Dalibor Vesely, *Architecture in the Age of Divided Representation* (Cambridge, MA: MIT Press, 2004), 273–4.
[73] Banham, *Theory and Design*, 330.

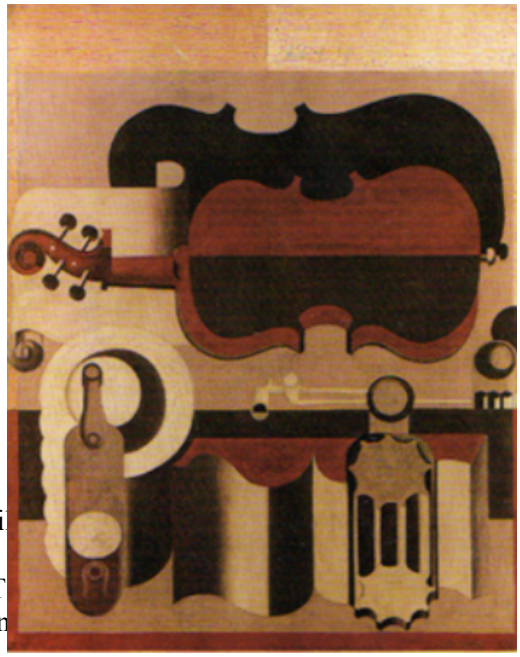
architect. If, on the other hand, he decides not to do this, he may find that a technological culture has decided to go on without him" (see fig. 2.6).[74] The choice that Banham gives architects is much too exaggerated and categorical.

Equally troubling is Banham's faith that technological developments and the aesthetic practices that mirror them are the inevitable way of the future. Vesely notes, "References to mission and fate are a clear manifestation of a deeper intentionality and deeper historical circumstances."[75] Technology and its associated practices may increase over time but are not unconditional. Technology "appears as a historical possibility, but always in contrast with other possibilities."[76] If we cannot find a way to disclose these other possibilities and challenge what is, in my view, essentially nihilism, we may succumb to an impoverished condition. In other words, if we cannot both engage and resist technology, it is likely that functional and aesthetic interests will continue to monopolize architectural thinking and making to the detriment of society.[77]

Fig. 2.7. Le Corbusier, *Nature Morte au Violon* (1920)

PURISM CONTRA JARRYISME

The growth of the Western technological world-view became more apparent after World War I. This had a major impact on the arts and their reception. The interest in the technological machine was evident in the Purist work of the architect Charles-Edouard Jeanneret and the painter Amédée Ozenfant, who were working in France



[74] Ibid. Although the early modernist architects had fai
age of the 1960s could deliver this unopened gift.
[75] Dalibor Vesely, "Architecture and the Question of T
and Ethics, ed. Louise Pelletier and Alberto Pérez-Gón
Queen's University Press, 1994), 31–2.
[76] Ibid.
[77] All periods in architecture following Vitruvius (and li d
negotiated with the varied aspects and implications of the machine. This is why the epithet "First Machine Age" is problematic. Although it is useful for discussing the escalation of the machine and the availability of the machine and its products during a particular historical period, the name is ultimately misleading. In fact, the name projects a technologically biased view of the past.

in the 1910s and 1920s. They announced, "The War over, everything organizes, [and] everything is clarified and purified."[78] Art, they felt, also must follow this ideological trend. According to Vesely, this "oversimplification has its roots in the dogmatically accepted belief in the universality of technical (instrumental) thinking."[79]

They set out to reconceive the pre-war successes of Cubism in a new light, believing that this would become "a new order of things" for a post-war Europe (see fig. 2.7). They argued that the reconstitution of Cubism should be based on rational analysis and an "objective point of view":

> Science and great Art have in common the ideal of generalization, which is the highest goal of the spirit. In accord with natural laws, they have contempt for chance. Analysis, which is fundamental, is only a means of learning about INVARIABLES, … art must generalize to attain beauty.[80]

This relied on lessons from the machine. "Already, machines, because of their numerical calibration, have evolved more rapidly, attaining today a remarkable refinement and purity. This purity creates in us a new sensation, a new delectation, whose significance is cause for reflection; it is a new factor in the modern concept of Art."[81] They continue: "PURISM expresses not variations, but what is invariable. The work of art must not be accidental, exceptional, impressionistic, inorganic, contestatory, picturesque, but on the contrary, general, static, expressive of what is constant."[82] Like calculative thought, it must be universal.

In 1965 the painter Ozenfant looked back at Purism and explained that he and Le Corbusier were trying to sanitize Cubism through a new attention to line and colour, using standard type-objects as their subject matter, without obscurity or suggestions of a fourth dimension. One of their aims was to rid their work of Apollinaire and his "jarryisme dadaiste."[83] Although Ozenfant's critique focused on painting, one senses that

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[78] Quoted from Charles-Edouard Jeanneret and Amédée Ozenfant, "Après le cubisme," in Carol S. Eliel, *L'Esprit nouveau: Purism in Paris, 1918–1925* (New York: Harry N. Abrams, 2001), 132.
[79] Vesely, "Architecture and the Question of Technology," 30.
[80] Jeanneret and Ozenfant, "Après le cubisme," 150.
[81] Ibid., 143.
[82] Ibid., 165.
[83] Amédée Ozenfant, quoted in Stanislaus von Moos, *Le Corbusier: Elements of a Synthesis* (Cambridge, MA: MIT Press, 1979), 41.

this "de-jarryfication" was equally architectural.[84] Le Corbusier referred to Jarry's *Ubu Roi* (Jarry's most well known work) when criticizing the influence of "folk-cultures" such as Japonisme on current design trends.[85] He thought that *Ubu Roi* was an extreme theatrical model that retained eclectic (perhaps esoteric) influences from nineteenth-century habits and fantasy. Ozenfant agreed that Jarry was the "last high-powered romantic," who also had a powerful influence over "extremism" in literature. He did not entirely dismiss Jarry because his wit was "piercing, often profound" due to his "monumental indifference."[86] Still Ozenfant described him as the "Cambronne of poetry" after Pierre Cambronne, a French major in Napoleon's Imperial Guard.[87] Cambronne was famous for yelling during battle, "The Guard dies and does not surrender!" Other reports have him saying "Merde." This vulgarity became known as "le mot de Cambronne" and was used by Jarry as a defence for his own "Merdre," uttered by Père Ubu. Ozenfant suggested that Jarry never surrendered – a stereotypical avant-garde motif – and that he may have been full of "le mot de Cambronne."

Although both the Purists and Jarry were interested in making work that addressed the modern machine society, they obviously had radically different positions, as Ozenfant's and Le Corbusier's references indicate. These different positions reflected divergent attitudes toward the machine in early modernism. Jarry realized that there was more to the machine than the values that Purism would promote later. Although their criticism of Jarry may seem like a fleeting reference to a marginal literary figure, it is actually based on explicit differences in intentions. Its nuances will become clearer with a

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[84] With writings by Colin Rowe, Robert Slutzky, and Sigfried Giedion, a Cubist analysis of the early buildings of Le Corbusier has become common. It hinges primarily on the Purist critique of cubist painting and the noted sympathies with the built work: space-time, transparency, etc. Colin Rowe and Robert Slutzky, "Transparency: Literal and Phenomenal," in *Mathematics of the Ideal Villa and Other Essays* (Cambridge, MA: MIT Press, 1982), 159–83; Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Cambridge, MA: Harvard University Press, 1956), 426–46. A similar interpretation was made by one of the artists: One of the earliest statements on Cubism is by Georges Braque in *The Architectural Record,* in the article "The Wild Men of Paris." Braque says, "It was necessary to draw three figures to portray every physical aspect of a woman, just as a house needs to be drawn in plan, elevation and section." Gellet Burgess, "The Wild Men of Paris," *The Architectural Record* 27 (May 1910): 405.
[85] Le Corbusier, *Decorative Art of Today*, 28.
[86] Amédée Ozenfant, *Foundations of Modern Art*, trans. John Rodker (New York: Dover Publications, 1952), 17.
[87] Ibid.

fuller understanding of Jarry, the science of pataphysics, and his pataphysical machines. The next chapter will address Jarry's position: first by asking, *What exactly is pataphysics?*

CHAPTER 3:
ALFRED JARRY, PATAPHYSICS, AND PATAPHYSICAL MACHINES

> All one's inventions are true, you can be sure of that. Poetry is as exact a science as geometry.[1]

Before succumbing to tubercular meningitis on November 1, 1907, exacerbated by chronic alcoholism and malnutrition, Alfred-Henri Jarry lay dying in a Paris hospital.[2] He was less than two months past his thirty-fourth birthday. Accompanied by only a handful of people, the story goes, he faded in and out of consciousness at the threshold of death. He then made one last enigmatic request for a toothpick. One could interpret this as a final absurdity in an otherwise tragicomic existence, but in hindsight, this small wooden implement, held between the thumb and forefinger, can act as a lever. With a fulcrum, it becomes a simple machine – like its more serious precursor, described by Pseudo-Aristotle – to remove detritus lodged between the teeth after dining. In his lifelong preoccupation with machines, this seemingly strange wish was his last.

The small-statured Jarry was born on September 8, 1873 into a family of artisans in the town of Laval, near Brittany. He was the second of three children (along with Charlotte and Gustave-Anselme, who lived only two weeks) born to Caroline Jarry, *née* Quernest, and Anselme Jarry, who broke with the family trade to set up a textile business. The family split, likely because his father's business failed. Caroline took the two children to Saint-Brieuc on the Breton coast, and then to Rennes. From an early age, Alfred was a precocious child who did well in school. Around the age of twelve, he began writing. Some of these works are contained in Jarry's *Ontogénie*, which was found by Maurice Saillet in the office of the Mercure de France. Early on, Jarry was influenced by the work of François Rabelais, Samuel Taylor Coleridge, and many others, including Friedrich Nietzsche before his writings were translated into French.

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[1] Gustave Flaubert quoted in William E. Buckler, *Novels in the Making* (Boston: Houghton Mifflin, 1961), 59.

[2] Biographical information has been obtained from the following sources: Noel Arnaud, *Alfred Jarry, d'Ubu Roi au Docteur Faustroll* (Paris: La Table Ronde, 1974); Linda Klieger Stillman, *Alfred Jarry* (Boston: Twayne, 1983); Keith Beaumont, *Alfred Jarry: A Critical and Biographical Study* (Leicester: Leicester University Press, 1984); Patrick Besnier, *Alfred Jarry* (Paris: Fayard, 2005); and Jill Fell, *Alfred Jarry* (London: Reaktion Books, 2010).

In 1891 Jarry moved to Paris. There he enrolled in school and had the good fortune to attend Henri Bergson's lectures at Lycée Henri-IV. He quickly became involved in literary circles with Symbolist leanings. Jarry's alliance with Symbolism was far from a clear-cut issue.[3] His friend Léon-Paul Fargue studied English – according to Fargue – under Stéphane Mallarmé, who had been teaching at various secondary schools around France until he received a post in Paris. It seems that knowing Mallarmé gave the two friends access to his Tuesday gatherings, Les Mardistes, at his home on the Rue de Rome.


Fig. 3.1 Portrait of Alfred Jarry

Jarry's main body of work spanned the last fourteen years of his short life (see fig. 3.1). In this work, he assimilated various approaches, genres, and fields, which led him to a multiplicity of sources and outcomes. He wrote fiction, poetry, drama, critical and speculative essays, journalism of various sorts, and libretti for comic opera. He sketched, made engravings and oil paintings, and even constructed marionettes. He studied physics, religion, mathematics, alchemy, heraldry, monsters, sports, scatological humour, politics, eros, death, and machines. He was keenly aware of contemporary literary discourse and also kept track of major scientific research, which, as we shall see, shaped his work. Jarry's temperament was "more baroque" than Marcel Duchamp's, according to Octavio Paz; "he proceeded by accumulation, arabesques, and ellipses."[4]

He was also not short on irony and humour. While he could play the fool, some found his persona more difficult than endearing. This was likely due to his maniacal outbursts, sometimes involving pistols. Because his persona has been elevated to the

[3] Arnaud, *Alfred Jarry*, 147.
[4] Octavio Paz, *Marcel Duchamp: Appearance Stripped Bare*, trans. Rachel Phillips and Donald Gardner (New York: Seaver Books, 1981), 136.

status of myth and has become beloved in artistic circles, it is sometimes hard to distinguish fact from fiction.[5] This surely would have delighted Jarry if he had lived longer. In avant-garde circles, he remained well known after his death because his friends and admirers – including Apollinaire, Breton, Rachilde, and Picasso – promoted and republished his work. Although it is uncertain that Picasso and Jarry ever met, Picasso drew Jarry's portrait, collected his manuscripts, and purchased his fabled revolver. In this dissertation, I am more concerned with his work while he was alive than with its posthumous fate.

During his life, he was most widely recognized for his staging of the play *Ubu Roi* (1896) and its (in)famous opening performance. He was also known for publicly adopting the role and speech of Père Ubu, the play's main protagonist. The writer André Gide testified to his appeal among others who were associated with the Mercure de France and tried "to imitate him, adopt his style, his clownery, and above all his speech."[6] At the turn of the century he was not alone in adopting an artificial mask, but he was extreme in his commitment to this wrenching of self. More radically than most, he did his best to live in this world, and this likely even cost him his life. Paz insists that this was ultimately an ethical stance based on "the subversion of self."[7] To understand this, I will begin with the *generale* of Ubu.

GENERALE OF *UBU ROI*

On December 9 and 10, 1896, the Théâtre de l'Œuvre presented Jarry's *Ubu Roi*. Because the theatre did not have its own building in Paris, the play was staged at Nouveau Théâtre (15 rue Blanche), a recently built neo-classical structure (see fig. 3.2). It was here that the audience witnessed Père Ubu's now infamous "Merdre," which opened

[5] "He's the sneaking likeness of us, faith, *me altar's ego in miniature* and every Auxonian aimer's ace as nasal a Romeo as I am, for ever cracking quips on himself, that merry, the jeenjakes, he'd soon arise mother's roses mid bedewing tears under those wild wet lashes onto anny living girl's laftercheeks. That's his little veiniality. And his unpeppeppediment. He has novel ideas I know and he's a *jarry* queer fish betimes, I grant you, and cantanberous, the poisoner of his word, but lice and all and semicoloured stainedglasses, I'm enormously full of that foreigner, I'll say I am!" James Joyce, *Finnegans Wake* (New York: Penguin Books, 1999), 46. Emphasis mine.
[6] André Gide, "Le groupement littéraire qu'abritait le *Mercure de France*," *Mercure de France* 218, no. 999–1000 (Dec. 1946): 168.
[7] Paz, *Marcel Duchamp,* 136.

the play. It soon became apparent that Ubu and his wife are hardly lovable. Jarry described Ubu as a representation of "all things grotesque." *Ubu Roi* became known not only for its *mot*, but for presenting other terrible acts of malice, hubris, cowardice, and regicide: one ethically dubious action after another.

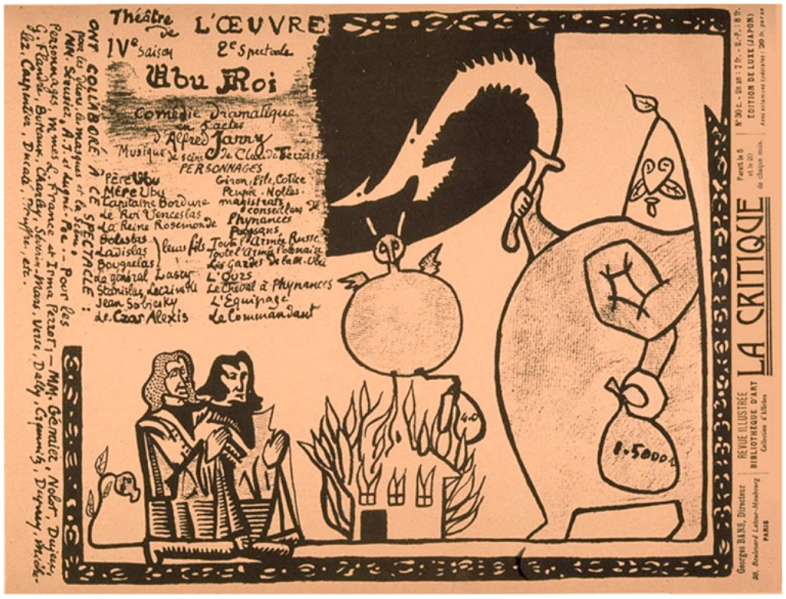

Fig. 3.2 Deluxe program insert for *Ubu Roi* (1896)

Ubu Roi has a strong parodic streak that was drawn from Jarry's school days.[8] Still, it is important not to overemphasize autobiographical influences on the play. Although the main figure of Père Ubu started as an exaggeration of his teacher Félix Hébert, biographical positivism would reduce the role of Jarry's creative imagination to a simple mirroring of his life.

Monsieur Hébert taught physics at the Lycée of Rennes. The fact that he was overweight and inept made him an easy target for ridicule by Jarry and his fellow students. One juvenile game at his expense was a series of imaginative episodes with him as the protagonist. These became the fodder for Père Ubu's many titles and adventures. The students' repertoire also included an evolving game that played on the teacher's name. Jarry fallaciously explained that it derived from *ybex* or the vulture.[9] It was more likely an iterative transformation from Hébert to Père Ébé, and so on. This culminated in the memorable name "Ubu," for which Jarry alone was responsible. "The name Ubu is

[8] Henri Béhar, *Les Cultures de Jarry* (Paris: Presses Universitaires de France, 1988), 75–114.
[9] Alfred Jarry, *Oeuvres complètes*, ed. Michel Arrivé, Henri Bordillon, Patrick Besnier and Bernard Le Doze (Paris: Gallimard, Biblithèque de la Pléiade, 1972–88), 1:467.

entirely Jarry's invention."[10] Like the name, the production of Ubu extended creatively beyond this original figure of fun.

As a young man, Jarry brought this play with him to Paris. Working his way into Symbolist circles, he became Aurélien-François-Marie Lugné-Poë's secretary at Le Théâtre de l'Œuvre. From this position he lobbied hard for his work to be staged. His efforts paid off with the help of some friends. Lugné-Poë agreed to put on Jarry's *Ubu Roi* in a short, two-day run.

Important aspects of *Ubu Roi* have been overlooked by associating it mainly with strategies of the avant-garde that use non-normative or anti-social actions (lifestyles, art, etc.) to shock the bourgeois from their habitual torpor. The avant-garde typically questions the status quo by wreaking havoc and instigating a proactive revolution in the arts to help build a new culture.[11] Jarry was known for his non-conformist position, but placing him categorically in an avant-garde camp would disregard his critical nuances and eclipse the intent of his stage work and science.

This avant-garde interpretation seems to be based on a fundamental misunderstanding of *Ubu Roi*. It was supposedly Père Ubu's *mot* that incensed the crowd and caused the riot at the opening night performance. Critics have tended to repeat the myth of the play's opening riot and missed what was truly subversive in Jarry's work. In fact, the riot was not caused by Père Ubu's opening exclamation of "Merdre." This was a falsehood propagated by Jarry's friend, the novelist Rachilde. Writing thirty-two years after the event, she knew full well the subsequent trajectory of the arts (Dada, Surrealism, etc.) and Jarry's importance to them.[12] Although she helped produce the play and was present at the opening performance, her account was contrived. Her proximity to Jarry gave her story validity and allowed it to grow. Her version has been repeated in much of the subsequent literature about *Ubu Roi*, including the highly influential *The Banquet Years* by Roger Shattuck.[13]

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[10] Letter from Henri Morrin to Charles Chassé, cited in Charles Chassé, *Les Sources d'Ubu-Roi* (Paris: H. Floury, 1921), 46n.
[11] Peter Bürger, *Theory of the Avant-Garde* (Minneapolis: University of Minnesota Press, 1984).
[12] Frantisek Deak, *Symbolist Theater: The Formation of an Avant-Garde* (Baltimore: Johns Hopkins University Press, 1993).
[13] Roger Shattuck, *The Banquet Years: The Origins of the Avant-Garde in France, 1885 to World War I* (New York: Vintage Books, 1968), 207.

The outrage in the Parisian playhouse resulted not from the opening "merdre" but from the play's theatrical discourse and representation. This is less compelling as a headline, but ultimately a richer interpretation, as I intend to show. Jill Fell notes that "the performance innovations created by Jarry for the play *Ubu Roi* were far more important for theater history than its plot."[14] His Symbolist friends already were familiar with the play, which Jarry had read in their various gatherings. Before the play opened, its script was also published in literary journals.

What did occur during that evening was far more complex than the myth in which "the vulgarity of the opening word … caused them to erupt and protest."[15] Instead, Jarry "subjected the audience's imagination" to a discourse that involved a series of unconventional ideas and representational strategies.[16] These tactics challenged certain members of the audience and caused the play to end in protest before its conclusion.

The Irish poet and playwright W.B. Yeats attended one of the evening performances. "The players," he recounted, "are supposed to be dolls, toys, marionettes and now they are all hopping like wooden frogs, and I can see for myself that the chief personage, who is some kind of king, carries for a sceptre a brush of the kind that we use to clean a closet."[17] During the prison scene (Act 3, Scene 5), when an actor temporarily sets aside his persona to become a door, a lifeless mechanical prop, frustration among certain members of the audience came to a head. This was just one of many substitutions, as if the play and the actors were a series of cheap, interchangeable parts. This revealed the technological core of Père Ubu.[18] According to Firmin Gémier, who played the lead role of Père Ubu that evening, this was the "last straw" that incited the riot:

> You remember that Pa Ubu goes to see Captain Macure, whom he is keeping prisoner. In the place of the prison door, an actor stood on stage and held out his left arm. I put the key in his hand as if into a lock. I made the noise of the bolt turning, "creeeeak," and turned my arm as if I was opening the door. At that moment, the audience, doubtless finding that the joke had gone on long enough,

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[14] Jill Fell, *Alfred Jarry* (London: Reaktion Books, 2010), 89.
[15] Ibid.
[16] Ibid.
[17] W.B. Yeats, *Autobiographies*, ed. William H. O'Donnell and Douglas N. Archibald (New York: Scribner, 1999), 265–6.
[18] I use "substitution" in the sense that Karsten Harries discusses *Ersatz*, following Heidegger's use of the term as a condition of technology. See Karsten Harries, *The Ethical Function of Architecture* (Cambridge, MA: MIT Press, 1997), 237.

> began to shout and storm: shouts broke out on every side, together with insults and volleys of booing. It surpassed everything in my experience. Then, I began to dance a jig, both as a reaction and as a way of exerting myself. The shouting and booing auditorium laughed and applauded and we were able to go on. I even sat down for a moment, my feet in the auditorium.[19]

Gémier was describing the first (i.e., *generale*) of two performances on December 9. "After this *generale*, we expected on the first night, an audience ready for anything. I had armed myself with a tramway horn, a resonant instrument, which has disappeared, and I told myself, 'If things get going, I'll blow on it like Roland at Roncevaux.' I only had to use it on two small occasions. As usual, the first-night audience was less impassioned that that of the *generale*."[20] This response extended far beyond the playhouse and spilled into various literary magazines.

After correcting the historically repeated error, it becomes evident that Jarry's play was not simply about shock for its own sake. The work was more sophisticated. Although some condemned the play, others in attendance found that Ubu's presence lingered with them. Mallarmé described the play's execution as "the skill of a sure and sober dramatic sculptor, my dear friend, and with a rare and durable clay upon your fingers, you have set a prodigious figure on his feet."[21] Mallarmé continued, "He enters the repertoire of high taste and haunts me; thank you."[22] In a similar sentiment, the journalist Catulle Mendès wrote:

> A new type has been placed before us, created by the extravagant and brutal imagination of a man who is a sort of child. … Père Ubu exists … You will not be able to get rid of him; he will haunt you and perpetually force you to remember not only that he passed this way, but that he has arrived and is here.[23]

By reframing Père Ubu's haunting presence, Jarry's work can be grasped in a different light, with consequences for his machines.

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[19] *Europe: revue littéraire mensuelle*, no. 623-4 (March–April 1981), 142–3. Interview with Firmin Gémier, first published in *Excelsior* (4 Nov. 1921).
[20] Ibid.,143.
[21] Cited in Stéphane Mallarmé, *Correspondance*, ed. Henri Mondor and Lloyd James Austin (Paris: Gallimard, 1983), 256.
[22] Ibid.
[23] Cited in Arnaud, *Alfred Jarry*, 316.

UBU: A MACHINE

> No one confessed that the Machine was out of hand. Year by year it was served with increased efficiency and decreased intelligence. The better a man knew his duties upon it, the less he understood the duties of his neighbour, and in all the world there was not one who understood the monster as a whole. … Humanity, in its desire for comfort, had overreached itself.[24]

Fig. 4.3 Postcard of International Exposition dedicated to Art and Technology in Modern Life in Paris

Just over forty years after *Ubu Roi*, the first full production of *Ubu Enslaved* (*Ubu enchaîné*) was performed for the 1937 International Exposition dedicated to Art and Technology in Modern Life in Paris. It was one of Jarry's three Ubu plays. Sylvain Itkine directed this production and the artist Max Ernst designed the play's sets. This was the same exposition in which Adolf Hitler and his architect Albert Speer built Germany's monumental Fascist pavilion to rival the Soviet structure standing resolutely on the other flank of Eiffel's Tower (see fig. 3.3). Needless to say, this was a highly politicized setting. It was no coincidence that the background of Ernst's set for Ubu referred directly to these architectural works in Paris (see fig. 3.4). By juxtaposing the grotesque Père Ubu with this architecture, Ernst questioned

Fig. 3.3 *Ubu enchaîné* (1937)

[24] E.M. Forster, "The Machine Stops" in *The Machine Stops and Other Stories*, ed. Rod Mengham (London: André Deutsch, 1997), 111.

their political agendas.

Following the debut of *Ubu Roi*, the main protagonist Ubu was often associated with tyrants and brutal dictators in a number of cultures. Interpreting Père Ubu as a heinous monster was a common trope. In the classical concept of the monster, he would be a warning or reminder. In the 1937 production, as in others, Itkine and Ernst drew attention to abuses of political power (through corruption, force, or violence) in an effort to understand and criticize them. This interpretation of Jarry's play as a critique of totalitarian politics was based on the fact that Père Ubu, with the aid of his wife, usurped political power, murdered, pillaged, and continued on to live another day. The figure of Ubu became associated with a left-of-centre political stance, although both Ubu and Jarry had been politically ambivalent.[25] Despite the success of these politically charged re-workings, they overlooked the broader significance of Ubu. The totalitarian state, according to Michel Haar, is only one of many "necessary consequences" of technology.[26]

The grotesque Père Ubu indeed evokes the less tangible and more diffuse problem of the machine. He displays all of the tell-tale signs. He is like a marionette with hinged mechanical joints who talks with a clipped mechanical speech that imitates Jarry's own portrayal of Ubu. Gide described Jarry's Ubuesque speech as "affected" because it was delivered with "utter flatness of voice, with no warmth, intonation of relief."[27] For the novelist Rachilde it was analogous to "the meshing of rusted gears."[28] Jarry himself promoted a mechanistic understanding of Ubu. In a letter to Rachilde on May 28, 1906 he spoke of Ubu (i.e., himself in the third person) and referred to his own "boiler" going out. "He is going to come quite gently to a halt," Jarry wrote, "like a broken-down motor."[29] Père Ubu is disconcertingly artificial.[30]

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[25] "God does not exist," says Jarry, instead "he is called by another name … No longer paradise, but the Future, Truth, Justice, Progress, all equals, all bourgeois." Jarry, *Oeuvres complètes*, 2:463.
[26] Michel Haar, *The Song of the Earth: Heidegger and the Grounds of the History of Being*, trans. Reginald Lilly (Bloomington: Indiana University Press, 1993), 81.
[27] André Gide, *Romans, récits et soties: oeuvres lyriques* (Paris: Gallimard, 1958), 1170.
[28] Rachilde, *Alfred Jarry; ou, Le surmâle des lettres* (Paris: Grasset, 1928), 14.
[29] Jarry, *Oeuvres complètes*, 3:616.
[30] "Ubu is an essentially modern robot." Micheline Tison-Braun, *La Crise de l'humanisme* (Paris: Nizet, 1958–67), 1:90.

Like technological practices, Ubu seems groundless because he originates from "nowhere." Jarry described Ubu, assisted by his mechanical (and inflatable) henchmen, as someone "who wants to erect his Will as sovereign law." Gilles Deleuze argues, "It is Ubu who represents the fat being, the outcome of metaphysics as planetary technology and a completely mechanized science, the science of machines in all its sinister frenzy."[31] Jarry quipped that this is a science "avec une grande scie" [with a large scythe].

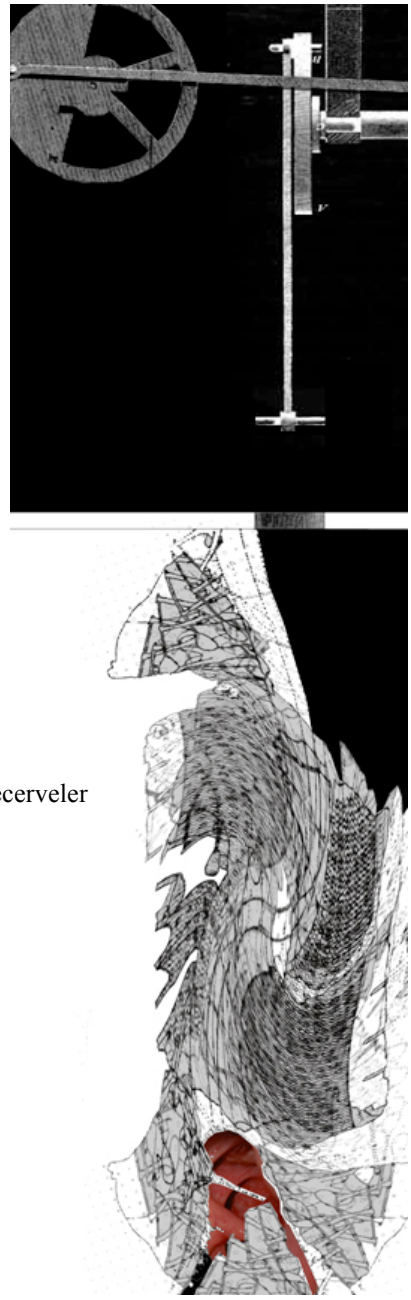

Fig. 3.5 La Machine à Décerveler

Not only is Ubu a machine, he promotes technology like a *baton-à-physique* or a *machine à décerveler* that presents an exaggerated intentionality in full gear. Ubu's technology, like the Debraining Machine, is destructive and even blasphemous as it operates only on Sunday (see fig 3.5). Jarry promoted improbable machines of death: "It's the machine that would make the *Geste Beau*."[32] At the *fin de siècle,* the "geste beau" [beautiful gesture] was aligned with anarchic beliefs that were fashionable in artistic circles of Paris, particularly among some of Jarry's friends, including Laurent Tailhade.[33] Its nihilism was illustrated by Tailhade's defense of anarchist bombings in Paris: "What do the victims matter if the gesture is beautiful? What do the deaths of a few vague embodiments matter

[31] Gilles Deleuze, *Essays Critical and Clinical*, trans. Daniel W. Smith and Michael A. Greco (Minneapolis: University of Minnesota Press, 1997), 92–3.
[32] Jarry, *Oeuvres complètes*, 1:339.
[33] John Merriman, *The Dynamite Club: How a Bombing in Fin-de-Siècle Paris Ignited the Age of Modern Terror* (New York: Houghton Mifflin Harcourt, 2009).

if, through them, the individual asserts himself?"[34] Although Jarry occasionally adopted a similar polemic, he ultimately rejected this logic. His essay "Visions actuelles et futures" described the ideas of Émile Henry, another anarchist of the period, as "obvious pseudo-logic of school boys, absurdity waging war against absurdity."[35] Jarry's approach to anarchy was more asymptotic. In one sense Père Ubu does embody and propagate the sinister and nihilistic aspects of the machine that Deleuze points out, but he also shows another side of the machine.

Ubu is fundamentally ironic, with pataphysical characteristics. As a self-proclaimed "Doctor of Pataphysics," he must be included in a larger discussion of Jarry's science and machines, a task that seemed dire to Jarry. Ubu's relation to pataphysical machines, along with the play's potential contribution to a more nuanced discourse, makes this work extremely salient. As Don Ihde notes, "Only by seeing through our penchant to interpret ourselves as machines will we be able to find out who we are."[36] For Jarry, this relied on what he termed "la science."

PATAPHYSICS IS WHAT?

Artists other than Jarry tend to be the subjects of focus in discussions about the machine. Foremost among them is Marcel Duchamp.[37] The attention he has received is certainly warranted, due principally to his work *La mariée mise à nu par ses célibataires, même* (1915–23), which is now housed permanently in the Philadelphia Museum of Art. Many consider it to be one of the most significant works of the last century. Duchamp was one of a group of artists and writers who explored the "heart of the modern storm."

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[34] "Qu'importent les victimes si le geste est beau? Qu'importe la mort de quelques vagues humanités si, par elle, s'affirme l'individu?" Quoted by Jean Bossu, *Laurent Tailhade et son temps* (Herblay: L'Idée libré, 1945), 75. With brilliant irony, Tailhade was disfigured as an innocent bystander in a bombing intended for someone else.

[35] Jarry, *Oeuvres complètes*, 1:337.

[36] Don Ihde, "Why do Humans think they are Machines?" in *Existential Technics* (Albany: State University of New York Press, 1983), 77.

[37] There are a number of continuities between Jarry's machinations and the work of Duchamp. Duchamp had a serious interest in Jarry. In fact, he granted that Jarry was something of a "god" to him. Duchamp even admitted to following Jarry's lead when he said that the Large Glass was part of an effort to "slightly distend the laws of physics." For an exploration (sometimes speculative) of the relation between Jarry and Duchamp, as well as others, see: William Anastasi, *William Anastasi's Pataphysical Society: Jarry, Duchamp, Joyce, and Cage*, ed. Aaron Levy and Jean-Michel Rabate (Philadelphia: Slought Books, 2004).

To them, the machine was the basis of a "modern myth," according to the literary scholar and writer Michel Carrouges.[38] He identified a constellation of works from the late nineteenth and early twentieth century as *machines célibataires* [bachelor machines], a designation borrowed from Duchamp's *Large Glass*, as it is more commonly known (see fig. 3.6).

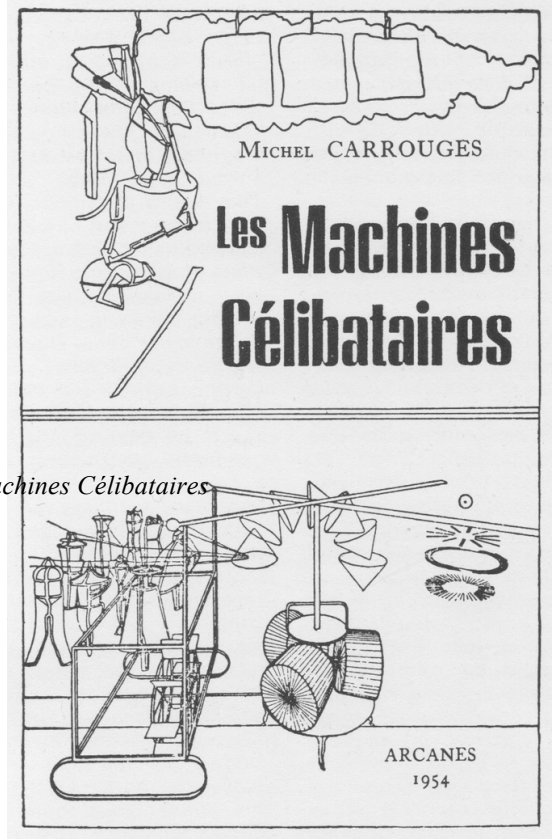

Fig. 3.6 Title page, *Les Machines Célibataires* (1954)

"Bachelor machines" typically dramatize a situation that superimposes a sexual configuration (male / female) onto the mechanical, or vice versa. Beyond the normal reproductive life cycle, they are concerned with overcoming space and time, progress, and fulfillment, exploring dreams of perpetual celibacy, autoeroticism, finitude, and death. Examples include the machinations described in Edgar Allan Poe's "The Pit and the Pendulum" and Franz Kafka's "In the Penal Colony." Although this type of work deals with gender and erotic relations, the bachelor typically does not have direct access to the female, who is "une mécanique amoureuse."[39] Their coupling occurs indirectly, if at all. This led Paz to describe Duchamp's *Large Glass* as "a comic and infernal portrait of modern love."[40]

[38] However helpful Carrouges's grouping is for gaining access to these diverse works, it also has its limits. For one, it can place too much emphasis on a retroactive reading of some of these machines through a Duchampian lens, which may distort more than it discloses. Another implication of reading Duchamp's ideas across too large a thematic spectrum is that every poetic machine soon becomes one. This happens irrespective of its nature and the intentions of its maker. It is important not to project our desire to find them onto artefacts and relationships that are actuality a variation or something entirely different. Michel Carrouges, *Les machines célibataires* (Paris: Arcanes, 1954).

[39] Ibid., 132.

[40] Paz, *Marcel Duchamp*, 70.

But Carrouges reminds us that "every bachelor machine is first of all a pataphysical machine, or a patamachine."[41] The curator Harald Szeemann agrees: "The essential core of the last decade of the nineteenth century [is] none other than the writer Alfred Jarry … and his all-embracing definitive system of pataphysics."[42] But what exactly is pataphysics? In an early definition, Jarry described it as the "science of these present and future beings and contrivances [*engins*], along with the Power their Use confers." Although this seems like a normative statement on the agency of technology, appearances are not always what they seem. Jarry's interest in the machine included critical challenges to its instrumentality and its aesthetic. His work thus can serve as a prime example for studying the machine, situated at the centre of his early definition of pataphysics. Pataphysics grounds it.[43] To understand his imaginative mechanisms (including Ubu), it is necessary to understand his science.

"Pataphysics," as Père Ubu declares in *Ubu cocu*, "is a science that we have personally invented, and for which a great desire has been widely felt."[44] Since its inception, many individuals, movements, and -isms have taken up this science. It influenced the Theater of the Absurd, Dadaists, Surrealists, and Situationalists, as well as recent work by the Collège de 'Pataphysique, the London Institute of Pataphysics, and the South African artist William Kentridge, among others. Architects such as Le Corbusier and Eileen Gray also learned from Jarry. The following reading attempts to avoid placing too much emphasis on Alfred Jarry the person. Instead, I will consider his science and unpack his machines according to what the philosopher Gianni Vattimo described as a work's "ontological bearing." Doing this, I believe, will help point a way *through* technological criteria.

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[41] Michel Carrouges, "Directions For Use," in *Le macchine celibi / The Bachelor Machines*, ed. Harald Szeemann (New York: Rizzoli, 1975), 44.
[42] Harald Szeemann, ed., *Le macchine celibi / The Bachelor Machines* (New York: Rizzoli, 1975), 10.
[43] "Le texte de Jarry est comparable à une machine, ou, plus précisément, une batterie de machines connectées entre elles: le sense surgit de diverses façons selon le fonctionnement des machines. Machines textuelles et intertextuelles, mais aussi, indissolublement, machine linguistiques." Michel Arrivé, "Langage et pataphysique," *L'Esprit créateur* 24, no. 4 (Winter 1984): 12.
[44] Jarry, *Oeuvres complètes*, 1:497.

The term "pataphysics" was developed during Jarry's school days and likely was not his sole invention. Like the character and adventures of Père Ubu, it seems to stem from a collective school legend that originated with several voices poking fun at the convoluted teachings of Monsieur Hébert. Jarry had the foresight to recognize its merits, revive it, and develop it.

He used the word "pataphysics" publicly for the first time in an episode involving Ubu and his Conscience in the short play *Guignol*, published in the April 28, 1893 issue of *L'Écho de Paris littéraire illustré*. The following year Jarry published his first book, *Les Minutes de Sable Mémorial*, in which the introduction refers to a future book on this mysterious science: *Éléments de pataphysique*.[45] This book on pataphysics, however, never materialized in that form. Instead, it was incorporated into *Gestes et Opinions du Docteur Faustroll, pataphysicien*, a work that Jarry finished writing in 1898.[46]

This work is to the science of pataphysics as the Bible is to Christianity. Instead of the more theoretical treatise that Jarry originally envisaged, he decided to create a cast of characters to "incarnate, practice, and expound the new science."[47] It is composed of eight books that fit together only loosely by sharing these strange inhabitants and a narrative journey, somewhat like Homer and Rabelais. Unlike his predecessors, Jarry's work has an uncertain destination and relishes its indeterminacy. It chronicles part of Doctor Faustroll's life on a pseudo-earthly plane and in dimensions beyond "reality." It may be described as a philosophical and artistic treatise, cast in the form of a story, which outlines the major definitions, postulates, and methods of the science of pataphysics. Some of its fictive situations are just as illuminating as its definitions. This "neo-scientific novel" is unquestionably Jarry's most complex effort, both artistically and philosophically. It is bewildering, even when approached with current critical apparatuses. Needless to say, Jarry managed to have only a portion of it published during his lifetime: chapters 6, 10, and 25. When the work was finally published in its entirety,

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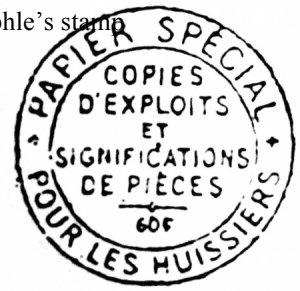
[45] Jarry, *Oeuvres complètes*, 1:170.
[46] Ibid., 1:676. The name plays upon Laurence Sterne, *The Life and Opinion of Tristram Shandy, Gentleman* (1759–69).
[47] Roger Shattuck, "Introduction," In *Selected Works of Alfred Jarry*, ed. and trans. Roger Shattuck and Simon Watson Taylor (New York: Grove Press, 1965), 14.

Jarry had been dead for nearly four years. It was hailed by the poet Guillaume Apollinaire as the "most important" literary achievement of 1911.[48] Almost no one else reviewed it.

Book One is an introduction to the work. It is written in humorous legal double-talk, with all of the appropriate stamps and signatures (see fig. 3.7). In it we are introduced to Panmuphle, whose name translates as "universal snout." This boorish and stupid figure is the narrator of the first seven books of the journey. Although he represents the worst type of bourgeois, one who collects money from debtors, he is allowed to witness and recount the wondrous unfolding of pataphysics; however, we learn during his chronicle that he is drunk enough to "believe anything." As the narrative alternates between real and imaginary, the reader's position becomes uncertain because the narrator is somewhat unreliable for the task at hand – or perhaps is perfectly suited.

Fig. 3.7 Panmuphle's stamp



The fact that Panmuphle is a bailiff [*un huissier*] is not coincidental. There is a similar character in Charles Baudelaire's prose poem "La Chambre double" in *Le spleen de Paris* (1869).[49] In this work Baudelaire described a domestic dream space in a blissful eternity outside time. There is a knock at the door and when a bailiff enters the room, the dream collapses. The room then becomes a desolate hole within which man is confined. Jarry does not succumb to Baudelaire's romantic despair; instead, he takes advantage of the disruption by having the doctor literally chain the bailiff to his boat and force him to row through a dreamlike journey. The bailiff is also emblematic of Jarry's highjacking of legal and scientific thought for poetic purposes.

Shortly after, we are introduced to the second and third members of the crew: Doctor Faustroll, the main protagonist and a semi-autobiographical figure, and Bosse-de-Nage, a hydrocephalous baboon. Both join the journey on the skiff. Bosse-de-Nage takes the skiff ashore when they reach an island and he acts as an interruption during their various conversations. Docteur Faustroll, like Père Ubu, is a Doctor of Pataphysics. Following pataphysical practice, he is described in overly wrought detail. We learn that

[48] Jarry's book was republished in 1921 at the height of the machine age.
[49] Charles Baudelaire, *Paris Spleen*, trans. Louise Varèse (New York: New Directions, 1970).

he was born fully matured at the age of 63, with golden-yellow skin similar to Paul Gauguin's *Yellow Christ*. He is hairless from the genitals up, except for a sea-green moustache and a full head of hair. From the genitals down he is covered in a thick coat of fur and seems to be a satyr, although Jarry assures us that "he was man to an improper degree." Faustroll has inkwell eyes and he bathes daily in a work of art. On this day, he takes a dip in wallpaper by the designer Maurice Denis. In other words, Faustroll appropriates these works just as Jarry's book appropriates the work of others through metaphors, allusions, quotations, and perhaps even plagiarism.

We learn that pataphysics has an intellectual pedigree. It was translated and brought to light by the doctor, Jarry explained, following Ibicrates the Geometer's reading of papyrus fragments that were passed down to him from the "divine teacher Sophrotatos the Armenian."[50] The name Faustroll, according to Roger Shattuck, comes from the combination of *Faust* (from Goethe) and *troll*, a theatrical part from an Ibsen play in which Jarry apparently acted. It also may come from the idea of a "faux stroll," hinting at the narrative journey and a larger analogy between travel and the artistic process. Doctor Faustroll bluntly claims, "I am God." As a demiurge, he is then a scientist, artist, and craftsman: a recasting of the Homeric *tekton*, a relative of the cunning *architekton*. A *tekton*'s occupation encompassed various forms of *techne*: art, craft, and science. Like Daedalus, the doctor devises, conceives, and brings forth (*poiesis*). This becomes evident when Panmuphle enters the doctor's apartment to log the belongings he wishes to confiscate and sell to pay off Faustroll's debt. There he finds works of art and various machines, including a bed constructed by the doctor.

Tektons were ancient workers skilled in wood, joinery, building walls, and, like the good doctor, constructing and piloting ships. Faustroll has two of these machines, but one is currently in the shop. The other (see fig. 3.7) is described in detail:

> But this bed … is not a bed but a boat, shaped like an elongated sieve. The meshes are wide enough to allow the passage of a large pin; and the whole sieve has been dipped in melted paraffin, then shaken so that this substance (which is never really touched by water), while covering the web, leaves the holes empty.

[50] Jarry, *Oeuvres complètes*, 1:679.

> … When I place my sieve on the river, the water's skin tautens against the holes, and the liquid flowing beneath cannot penetrate unless the skin breaks.[51]

Its basic components were borrowed from scientific works of the day, augmented with some elaborations by Jarry.[52] It is propelled by "ash-wood oars" and "suction discs at the end of spring levers." Its "keel travels on three steel rollers." In the skiff, Jarry placed one "manuscript" and "twenty-seven equivalent books," including Baudelaire, Coleridge, Rabelais, his own *Ubu Roi*, and other works by his friends. They serve as ballast to provide stability and philosophical grounding for the journey.

But I am getting ahead of myself. To make a long story short, after visiting numerous islands there is a celebratory banquet. Faustroll sees a horse's head, which he says is ugly and thus evil. This prompts him to light a candle that burns for six days, killing everyone in the world except those in his company. He then strangles Bosse-de-Nage. "Having only existed imaginarily," the baboon later comes back to life. They encounter a painting machine and leave it in the care of the painter Henri Rousseau, who was also Jarry's friend. Faustroll intentionally sinks the skiff and dies with the bailiff at his side. The wallpaper that covered his body unrolls due to the water's teeth. Similar to the Shroud of Turin, its underside in the form of a spiral is "like a musical score, all art and all science … and their progression to an infinite degree was prophesied therein."[53] Faustroll, no longer bound to three dimensions, continues on in an unknown dimension. He conducts experiments and sends telepathic letters to Lord Kelvin. There is a discussion of death, eros, a proof that Man is God, and finally the famous definition, "God is the tangential point between zero and infinity." The novel ends with the enigmatic "Pataphysique est la science …"[54]

This brief synopsis is meant to show the variety and diversity of his work, not to explain away all of the obscure happenings throughout the inscrutable journey. A reader needs to suspend disbelief and follow Jarry's deep-seated interest in the inexplicable and

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[51] Ibid., 1:664.
[52] Linda Klieger Stillman, "Physics and Pataphysics: The Sources of Faustroll," *Kentucky Romance Quarterly* 26, no. 1 (1979): 81–92. Linda Dalrymple Henderson, *Duchamp in Context: Science and Technology in the Large Glass and Related Works* (Princeton: Princeton University Press, 2005).
[53] Jarry, *Oeuvres complètes*, 1:722.
[54] Ibid., 1:734.

contradictory. The text's "indeterminacy" has thwarted even the best attempts to analyze it and establish a critical distance. Knowingly or not, by incarnating his pataphysical science, he was able to resist analytical reading and its technological imperative.

While introducing and situating this "science" in the larger narrative, we have partially sidestepped the original question: What is this science for which a "great need" has been felt? The most articulate definition(s) appear in Book Two, entitled "Éléments de Pataphysique." Along with Book Eight, it is thought to have been part of Jarry's original treatise. In Book Two, he explains that the formal use of the term 'Pataphysics is "preceded by an apostrophe so as to avoid a simple pun" such as "patte à physique" [leg of physics] or perhaps "pas ta physique" [not your physics], as Shattuck and Keith Beaumont point out. The term, nonetheless, is etymologically derived from επι (μετα τα φυσικα) [*epi* (*meta ta physika*)]: "the science of that which is superinduced upon metaphysics, whether within or beyond the latter's limitations, extending as far beyond metaphysics as the latter extends beyond physics."[55] This is undoubtedly a play on Aristotle's definition of metaphysics as the subject to be studied after physics.

Jarry explains that a pataphysician studies epiphenomena. "An epiphenomenon is that which is superinduced upon a phenomenon." He gives us an example: "an epiphenomenon being often accidental, pataphysics will be, above all, the science of the particular, despite the common opinion that the only science is that of the general."[56] This counters the claim that there is no *epistêmê* (knowledge or science) of the accidental because all *epistêmê* is lasting, or at least occurs regularly.[57] In other words, we have been culturally conditioned to recognize order in singular events that are actually random occurrences. We retroactively arrange them to make sense of their sequence and appearance. Therefore, Jarry says that the science of pataphysics "will examine the laws governing exceptions."[58]

Following Deleuze, I believe that pataphysics was "inseparable from a phenomenology" or a new – and by "new" I mean older – comprehension and articulation

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[55] Ibid., 1:668.
[56] Ibid.
[57] Aristotle, *Metaphysics*, trans. Hugh Tredennick (Cambridge, MA: Harvard University Press, 1979), 1027a.
[58] Jarry, *Oeuvres complètes*, 1.668.

of phenomena. It attempted to revive the empirical complexity of the lived world amidst the increased mathematization of modernity. Pataphysics "will explain the universe supplementary to this one; or less ambitiously, will describe a universe which can be – and perhaps should be – envisaged in the place of the traditional one."[59] There are other ways of understanding the world, and Paz noted that Jarry "would have liked to live in a world of unique objects and entities where the exception alone would rule."[60] This, of course, was diametrically opposed to the Purist interests in "generalization," the non-contingent, and "invariables" that were discussed in Chapter 2.

Jarry declares, "The laws that are supposed to have been discovered in the traditional universe are also correlations of exceptions, albeit more frequent ones, but in any case accidental data which, reduced to the status of unexceptional exceptions, possess no longer even the virtue of originality."[61] Again, anomalies are either incorporated into an orderly system or left aside. Even though order is imposed, the world still retains its exceptional nature. Reality might be shot through with explanations from calculative thought, but our experience of it is still richer than our best ideas about it.

Obviously, Jarry is giving the *digitus medius* to the scientific project that discredits what does not fit neatly into its apodictic framework. Modern physics is based on the world of appearances and quantifiable phenomena, while metaphysics is lost in abstractions that neglect the concrete and historical for the sake of unity. Both make an arrogant claim to be the exclusive measure of reality. The "supplemental universe" that Jarry seeks is not elsewhere, nor is it trying to access the physical nature of reality. Pataphysics instead extends "as far beyond metaphysics as the latter extends beyond physics."[62] It targets precisely where we live. This includes dreams, hallucinations, and other outpourings of the imagination that modern science does not regard as "real" because they violate its laws.

Jarry goes on to say that "contemporary science is founded on the principle of induction" and that causality is a result. He notes that most people assume that a phenomenon will always show itself in the same manner, as if it were a perpetual

[59] Ibid.
[60] Paz, *Marcel Duchamp*, 136.
[61] Jarry, *Oeuvres complètes*, 1:668.
[62] Ibid.

machine. “This is true only in a majority of cases, [though it] depends on the point of view.”[63] Acknowledging point of view suggests that custom is involved in all forms of measure and is not neutral. Bergson later wrote “that an element of convention enters into any measurement.”[64] Jarry argues that people’s “universal assent” to this point of view is “codified only for convenience,” often under the pretext of utility. “This is true only in the majority of cases, [but this] depends upon the point of view, and is codified only for convenience.”[65] He asks,

> Why should anyone claim that the shape of a watch is round – a manifestly false proposition …? But a child who draws a watch as a circle will also draw a house as a square, as a facade, without any justification, of course; because, except perhaps in the country, he will rarely see an isolated building and even in a street the façades have the appearance of very oblique trapezoids. We must, in fact, inevitably admit that the common herd (including small children and women) is too dimwitted to comprehend elliptic equations, and that its members are at one in a so-called universal assent because they are capable of perceiving only those curves having a single focal point, since it is easier to coincide with one point rather than with two.[66]

In this extended passage, he seems to be arguing against the abstract orthographic representations that architects use to project a façade onto a two-dimensional surface as a set of rectilinear lines. He suggests that these abstractions are removed from their experiential context on the wrist (in the case of the watch) or within the city. This was exacerbated by Monge’s descriptive geometry, which systematically linked representations to the world and stripped them of their symbolic aspects. However, Jarry’s diatribe can be interpreted also as a response to the ubiquitous levelling of calculative thought. Like Søren Kierkegaard before him and Heidegger after, Jarry drew attention to the flattening of complexity in an age when this was happening with tremendous speed. “Universal assent” to the allure of calculative thought and its norms overlooks meaningful distinctions and thereby levels everything to homogeneity. This nihilism disavows the plurality of “elliptic equations” and “polyhedral ideas” in favour of a homogeneous unity because it is “easier to coincide with one point” than with two. By

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[63] Ibid., 1:669.
[64] Henri Bergson, *The Creative Mind: An Introduction to Metaphysics* (New York: Philosophical Library, 1946), 12.
[65] Jarry, *Oeuvres complètes*, 1:669.
[66] Jarry, *Selected Works*, ed. and trans. Roger Shattuck and Simon Watson Taylor (New York: Grove Press, 1965), 193. With my adjustments. Jarry, *Oeuvres complètes*, 1:669.

emphasizing the complexity of situations – two points instead of one – he attempts to challenge the rational drive to reduce experience to a non-contradictory state that is beyond dispute. To embrace pataphysics, as Jarry did, is to adopt a marginal practice that seeks imaginative routes in a world where determinism normally reigns.

At the same time Jarry does not fall into personal expressions of sentimentality that are too frequently seen as the domain of art and the binary opposite of calculative thought. He was much too detached and "scientific" for such expressions. He ultimately sought a unique world where a maker's work might "describe a universe which can be." By beginning to ground his science in a phenomenology, he challenged the conventions of his day, as we shall see in his ideas about creativity and framing human action. His efforts were a thoughtful and measured response to difficult questions raised by an increasingly mechanized world.

PATAPHYSICAL MACHINES

With all of the criticism, destructive impulses, and rife irony beloved by the Dadaists, it is impossible to agree with Maurice Marc LaBelle's assessment that Jarry was a "misanthrope."[67] His questioning of society placed him in an asymptotic relation to anarchy.[68] Instead, he displays a discernibly positive stance towards making. "Hornstrumpot!" declares Jarry succinctly through the jaw of Père Ubu, "We shall not have succeeded in demolishing everything, unless we demolish the ruins as well. But the only way I can see of doing that is to use them to put up a lot of fine, well-ordered buildings."[69] For better or worse, we have inherited these ruins and must envisage an architecture to redress this negligence. This is not easy in a climate where the wonder and engigma of the poetic, erotic, and playful are considered inessential, even gratuitous.

With its "ethernal" wager on world building, pataphysics attempted to reclaim the phenomenal world of experience and articulate humankind's situatedness. Jarry's

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[67] Maurice Marc LaBelle, *Alfred Jarry: Nihilism and the Theater of the Absurd* (New York: New York University Press, 1980), 50.
[68] His political position is ambivalent: In one instant he criticizes Republicanism but in another he seems to change positions. See Beaumont, *Alfred Jarry*, 217–20. Also, for a reading of the history of *fin-de-siecle* anarchy, see Merriman, *Dynamite Club*.
[69] Jarry, *Oeuvres complètes*, 1:427.

"science" recognized our singular, embodied position, with the earth underfoot and the sky above.[70] In doing so, it offered a philosophical strategy that "used science as a weapon against science."[71] In the modern age of instrumentality, Jarry construed pataphysical machines against instrumental contrivances.

To explore the realm of pataphysics, Jarry invented a series of ingenious machines that appear in many of his major works.[72] They include *la machine à peindre*, Ubu's *machine à décerveler*, Faustroll's *la machine à explorer le temps*, and others that appear in his 1902 novel *Le Sûrmale* – as well as Ubu himself, as I have shown. Carrouges argues that these are "improbable" contrivances because they are not governed by mechanics or conventional utility, but it makes little difference whether they are materially feasible. By suspending the purely functional aim of mechanics, these pataphysical machines may seem "useless," but instead present "the semblance of machinery, of the kind seen in dreams, at the theatre, at the cinema."[73] Carrouges, however, fails to note that these machines are architectural, following the tradition of Daedalus and other ancient machinators. They revive the earlier understanding of wondrous and imaginative contrivances that was discussed in Chapter 1. These machines criticize modern calculative thought as they pursue other possibilities.

At first glance, Jarry's irony seems to dismiss science and technology. He argued that they were hardly more advanced in "the iron age" than they were in "the stone age." "Ignorant people have a term for describing those of their kind who are specialists in ignorance: they call them scientists and scholars."[74] Although his position sounds cynical, it was more than a knee-jerk response to the milieu that surrounded him; it embodied a reciprocal relationship. Jarry was shaped by the very same machines that shaped the society in which he was situated. At the same time, he actively tried to shape the world through his mechanisms. His work displayed a profound tension because he remained deeply ambivalent about the machine. The surrealist architect and theatre designer

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[70] Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge, MA: MIT Press, 2000), 296–7.
[71] Paz, *Marcel Duchamp,* 136.
[72] Michel Arrivé goes so far as to describe Jarry's texts as "machines linguistiques." Arrivé, "Langage et pataphysique," 12.
[73] Carrouges, "Directions for Use," 21.
[74] Jarry, *Oeuvres complètes,* 2:403.

Frederick Kiesler succinctly articulated this attitude, which was prevalent in certain artistic groups. His essay "Magic Architecture" describes his view on modern architecture but also is pertinent to Jarry's work. This trend, he says, "holds the balance between the two extremes of man: a) desire for the machine, b) the denial of science."[75]

Obviously, Jarry was not a Luddite. There were times when he delighted in the technological. He was smitten with the latest model of bicycle and took advantage of the printing press to disseminate his work. His engagement with the machine extended into his writing, where we find "real" machines drawn from the expanding urban and industrial world around him. He particularly admired forms of urban transportation that were all too present in Paris: "Planes, trains, automobiles, omnibuses, streetcars, a whole new city, bicycles, you name it."[76]

He also took existing mechanisms and re-imagined their intent and their origins. A military rifle that was notorious for jamming was reinterpreted by Jarry's twisted rationale: "We have the right to suspect that the inventor created this apparatus in order to render our arms unusable by the enemy in the event of defeat."[77] Elsewhere he concluded that the architecture of the Parisian arcades, which prevents rain falling on people's heads, led Père Ubu to invent the umbrella.

He worked pataphysically by adopting rational, deductive, and constructive facets of science and technology, then troping them, often ironically. He found relevance and poetic potential in this work. His essay "Commentaire pour servir à la construction pratique de la machine à explorer le temps,"[78] authored under his character's name Docteur Faustroll, appropriated H.G. Wells's *Time Machine* and adapted ideas from William Thompson and Lord Kelvin. Other "useful" scientists for Jarry were C.V. Boys and William Crookes. The time machine is actually an "immobilising machine" that

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[75] Frederick Kiesler, "Magical Architecture," in *Programs and Manifestoes on 20th-Century Architecture*, ed. Ulrich Conrads (Cambridge, MA: MIT Press, 1975), 150. Kiesler argues, "I oppose to the mysticism of Hygiene, which is the superstition of 'Functional Architecture', the realities of a Magical Architecture rooted in the totality of the human being, and not in the blessed or accursed parts of his being." Kiesler, "Magical Architecture," 151.

[76] Marieke Dubbelboer, "Un univers mécanique: la machine chez Alfred Jarry," *French Studies* 58, no. 4 (2004): 473. Also of interest for Jarry are the accidents and issues involved with these forms of transport, such as pedestrians endangering rapidly moving cyclists.

[77] Jarry, *Oeuvres complètes*, 2:322–3.

[78] Ibid., 1:735–43.

makes its riders invisible to the linear flow of time by placing them beyond the effects of "duration." This is like creating a "window-pane [that] allows free passage to a projectile."[79] Such mechanisms seem to participate in an orthodox mechanical view of the phenomenal world but also pursue a critical poetic. His playful twisting of their technologies has further implications for temporality, the will, and ultimately meaning.

"Although technology is future-oriented," explains philosopher Lorenzo C. Simpson, "it is so in a way that seeks to annihilate the future *qua* future, that is as free possibility, so that the future remains open, but open for increased control."[80] A race that is described in Jarry's "neo-scientific novel" *Le Sûrmale*, set in 1920, illustrates this point. It is ostensibly a competition between a penta-bicycle and a train over a 10,000-mile course. Riding the bicycle are five men who are given "perpetual motion food" to help them compete against the train. The story is partly an ironic play on the technological imperative (as well as a reading of other themes, involving a female body on the train, the train's large glass windows, roses that suddenly appear, and a shadowy figure we assume to be the Supermale that surpasses both bicycle and train). The five pedaling men are merely a means.[81] They are taken up fully by technology in the pursuit of inhuman speed and the race to succeed. We are fooling ourselves if we believe they have control. This mechanical ensemble – bicycle, men, fuel, and the competitive race – exaggerates optimization to show its absurdity. All of these raw materials have been assembled to push the bounds of the possible. The character Jewey Jacobs, for instance, dies but is made to continue beyond the limits of death. The riders are willed to will, in order to do the bidding of technology. The race is not about a machine that spurs a conversion into death. It embodies a machine (really a complex of machines) that optimizes even death, which is normally a threshold that levels rich and poor, but here has been co-opted for increased productivity.

There are also more complex machines in Jarry's work. He seemed to enjoy their promises and his capacity to imagine new ones. He saw this as a role for writers of *le roman scientifique*, what today we might call science fiction. Although Jarry's

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[79] Ibid., 1:737.
[80] Lorenzo C. Simpson, *Technology, Time and the Conversations of Modernity* (New York and London: Routledge, 1995), 54.
[81] Jarry, *Oeuvres complètes*, 2:217–32.

mechanisms may not be feasible and may even be derided by professionals with a categorical bent, they should not be dismissed. According to him, science fiction writers "prove once again" that they are "precursors" of the future.[82]

The "improbable" workings of these machines belong to a variant order that questions the mechanization of thought and the status quo. I would even argue that they can be understood as significant architectural works, assuming that the architect's role can be re-expanded and re-deepened to include tasks that are pataphysical. This would extend the architect's traditional role of embodying cultural meaning by giving material, spatial, and temporal *suggestion* to human patterns. This effort would acknowledge the profoundly erotic, imaginative, and oneiric dimensions in which our work, language, and world are situated. I believe this depends on the ingenium's ability to reconcile poetics and ethics through the things we make: whether a building, a drawing, or a story. This broader role for the architect would be uncomfortable for some, as it extends far beyond the legislative boundaries (read biases) of the architectural profession; however, our world is much too complex and intertwined to pretend any longer that these boundaries make sense.

Dr. Faustroll's skiff, named the "as," is one such mechanism (see fig. 3.8). It is explicitly a "mechanical" work with a polyvalent purpose, being a bed/skiff/sieve as well as a small library. The skiff does a number of things. It structures a "hyper-artistic environment" and a circular journey from "Paris to Paris by Sea" – but actually, an adventure over dry land – described in Book Three of the Faustroll narrative.[83] The skiff also focuses a set of social practices by gathering the scattered work of a group – the diverse books and thirteen "islands" they visit on this trip – as coherent possibilities for imaginative action.

Throughout most of the journey the crew is able to go ashore and drink with the inhabitants of each island. This resembles the journey in Rabelais, where drinking is communal and is associated with embodied learning. The islands disclose different characteristics of their makers and their works (e.g., "Du Bois d'Amour" to Émile Bernard), in concrete terms that are often architectural or topographical. Not all of them

[82] Alfred Jarry, "De quelques romans scientifiques," in *La chandelle verte* (Paris: Livre de Poche, 1969), 322.
[83] Ben Fisher, *The Pataphysician's Library* (Liverpool: Liverpool University Press, 2000), 203.

are positive. The writer Pierre Loti, whose work is used as a laxative, takes the brunt of Jarry's scorn, whereas L'ile de Ptyx, dedicated to the esteemed Mallarmé, is one of the most elegant:

> The isle of Ptyx is fashioned from a single block of stone of its same name, a priceless stone found only in this island, which is entirely composed of it. It has the serene translucency of white sapphire and is the only precious stone not ice-cold to the touch, for its fire enters and spreads itself like wine after drinking. Other stones are as cold as the cry of trumpets; this has the precipitated heat of the surface of kettledrums. It was easy for us to land there, since it was cut in table-form, and we had the sensation of setting foot on a sun purged of the opaque or too dazzling aspects of its flame; as with the torches of olden times. One no longer noticed the accidents of things but only the substance of the universe.[84]

Machines such as Mallarmé's island are offered as exemplars from which others can act. According to Gadamer, "Art is knowledge and the experience of the work of art is a sharing of this knowledge."[85] Although the works that Jarry brings together seem disjunctive, they engender a sharing of their knowledge and spur creativity. Marcel Raymond argues, "To make poetry an instrument of knowledge was exactly what had been advocated in the teaching of Baudelaire, Mallarmé, and Rimbaud."[86] Jarry's machines may seem obscure or even trivial because they transcend the dominant conventions of thinking and making. He believed that one must be prepared to set aside the cynicism that comes with the technological imperative and look upon the world with the eyes of a child. This suggests a significant re-orientation of thinking and making, particularly in architecture. To understand this better, the next chapter will unpack a theory of pataphysical creativity.

[84] Jarry, *Oeuvres complètes*, 1:685–6.
[85] Hans-Georg Gadamer, *Truth and Method* (London: Sheed and Ward, 1985), 87.
[86] Marcel Raymond, *De Baudelaire au surrealisme* (Paris: Correa, 1933), 124.

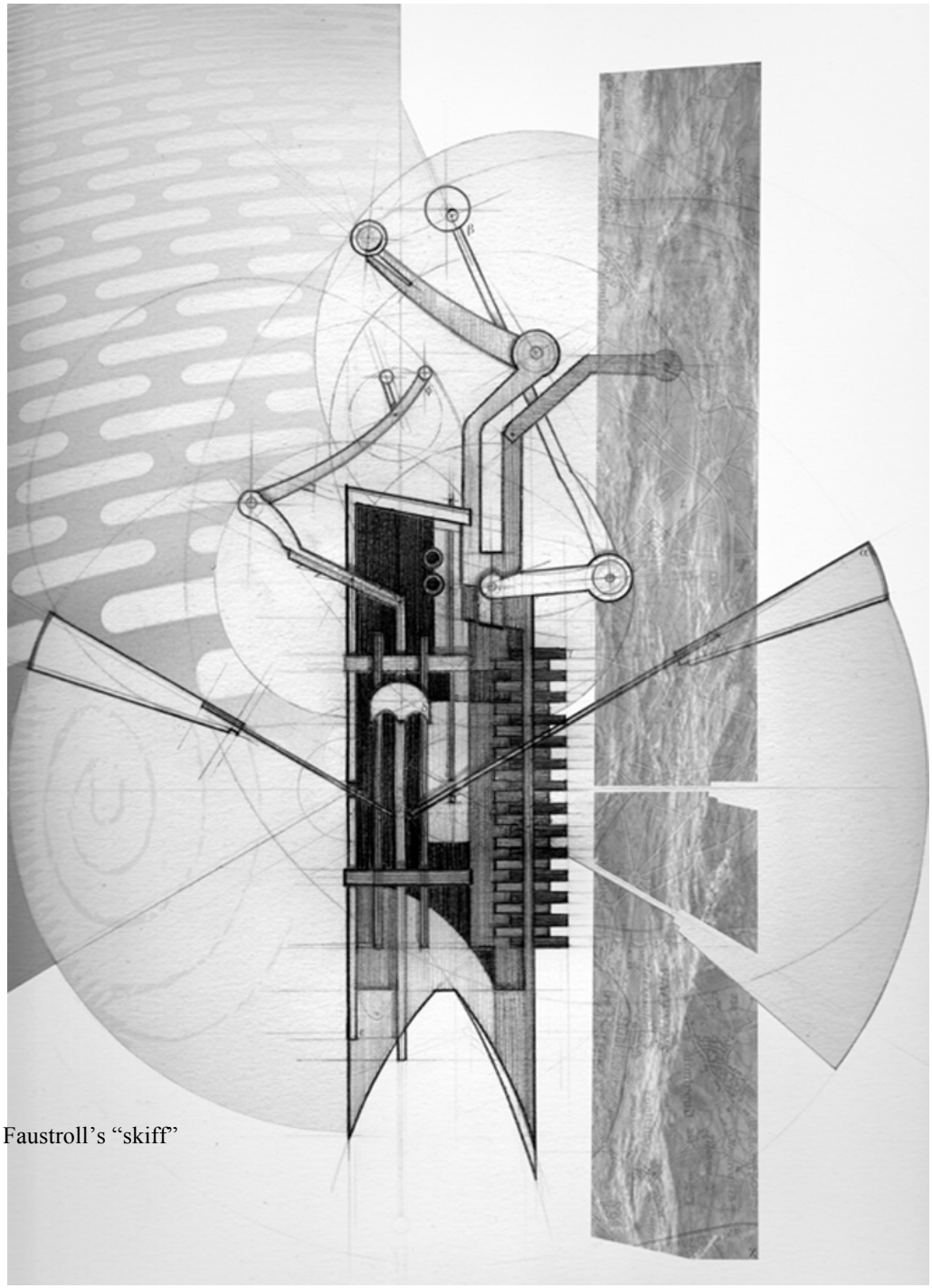

Fig. 3.8 Docteur Faustroll's "skiff"

CHAPTER 4:
IMAGINARY SOLUTIONS: THE NATURE OF PATAPHYSICAL CREATIVITY

> It is, in my opinion, at the moment when a new meaning emerges out of the ruins of literal predication that imagination offers its specific mediation.[1]

Unlike Jean-Paul Sartre, Alfred Jarry never wrote a systematic theory of creativity. Although his work was fragmented, it consistently challenged the encroachment of the machine *through* the machine. If a functional or aesthetic approach were not sufficient, as I have argued, what would be more appropriate for creative activities? In the previous chapter, Jarry's answer was the science of pataphysics. With this in view, the most pressing question is now: *What constitutes creativity for the pataphysician?*

Creativity has always been a shadowy process. It is hard to say *objectively* what enables a maker to bring something into the world, but it is still important to try. To understand Jarry's theory, we must be attentive to the constellation of ideas in his works. His characters, narrative contours, indices, and "half-opened ideas" make his work both tantalizing and frustrating. A careful hermeneutics will seek a consistent stance: a "network of interconnecting passages" at the primary and secondary levels of reading across the spectrum of his work.[2] References also will be made to several related architectural issues, although I would argue that his machines are already architectural.

The heart of this chapter will consider how the pataphysician seeks "imaginary solutions," using various tactics: referring to one thing in terms of another; saying multiple things at the same time; and discovering hidden order and meaning. To recognize this theory, we must learn how Jarry understood the world at large. His creativity helped shape, and was shaped by, his machines and their place in the pataphysical cosmos.

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[1] Paul Ricoeur, "Imagination in Discourse and in Action," in *From Text to Action: Essays in Hermeneutics*, trans. Kathleen Blamey and John B. Thompson (Evanston, IL: Northwestern University Press, 1991), 172.
[2] Linda Klieger Stillman, *Alfred Jarry* (Boston: Twayne, 1983), 6.

INGENIUM

In an early definition, Jarry explained that pataphysics is the "science of these present and future beings and contrivances [*engins*] and the Power their Use grants (discipulus)."[3] I already noted that this definition links his "science" to the mechanisms that populated his literary works and ideas, but it also links his mechanisms to an older tradition. The French word *engins*, like the English word "ingenuity," comes from the Latin *ingenium*.[4] Vitruvius tells us that the architect should possess *ingenium* or a cunning intellect.[5] The editor Alfred Vallette, in a eulogy for Jarry, stated that his friend was not "gifted" with imagination *per se*, but with "ingenuity." Vallette called Jarry's faculty a "geometric imagination."[6] *Ingenium* played an important role in the rhetorical tradition of Cicero, as well as in Renaissance humanism. The pataphysician is also a descendant of the Sophist, that controversial figure in the history of rhetoric, although pataphysical practices differ from the Sophists' intellectual trickery.

In modernity, rational knowledge was sought methodically, using Cartesian logic. Hans-Georg Gadamer says, "Only what can be investigated by method is the object of a science. But this implies that there are marginal cases and gray areas of half-sciences and pseudo-sciences that don't fully satisfy the conditions of scientificity and yet are perhaps not devoid of valuable truth."[7] Scientific truths must be demonstrable, using reason or the "logic of the proof."[8] Speech cannot be tested in this rational way, for instance, so its

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[3] Jarry, *Oeuvres complètes*, 1:341.

[4] There is a wonderful ambiguity to the term *ingenium*. It can refer to both material and immaterial qualities, including character, ability, cleverness, high intellectual capacity, wit, and even imagination and creativity. It was applied first to places and things (*ingenium* of a hill) and later to extraordinary people (*ingenium* of Lucretius). *Ingenium* is also the root of "genius." R.G. Saisselin, *The Rule of Reason and the Ruse of the Heart: A Philosophical Dictionary of Classical French Criticism* (Cleveland, OH: Press of Case Western Reserve University, 1970), 89–96.

[5] Vitruvius, *Ten Books*, 1.1.3.

[6] Alfred Vallette, "Mort d'Alfred Jarry," *Mercure de France* (16 Nov. 1907).

[7] Hans-Georg Gadamer, "Praise of Theory," in *Praise of Theory: Speeches and Essays* (New Haven and London: Yale University Press, 1998), 29.

[8] In a mechanistic world, "it is assumed that pieces of matter interact with each other according to predictable, mathematical laws, all phenomena could be understood through a process of reductionism in which complex problems are solved by breaking them into smaller and smaller parts and then analyzing those parts. In such a world view a total understanding of the behavior of the whole can be gained through an understanding of each of its parts." David F. Channell, *The Vital Machine: A Study of Technology and Organic Life* (New York: Oxford University Press, 1991), 29.

legitimacy would remain in doubt. These premises, however, assume the separation of form and content, emotion and reason, ornament and structure. Rhetoric, according to Ernesto Grassi, is different. It is not a secondary shaping but a primary basis for understanding.[9] He says that it relies not on a purely "rational-theoretical character"; instead, speech at its very root is "thoroughly indicative," suggesting that it is "figurative" or "imaginative" in the original sense: "theoretical" from *theorein*, meaning 'to see', as in 'to understand'.

Ingenium is then an "act of insight" and a "sphere of acuteness and wit." In a Roman or Renaissance context it would have been divinely given, but in modernity the conditions had changed. Jarry points to "the machine, which all by itself, did the work of God. *Deus ex machina*, THE GOD HAS BEEN REMOVED FROM THE MACHINE."[10] A human plot no longer can depend on a god, lowered in by some contrivance, as Horace warned in *Ars poetica*. The gods have flown away. Jarry quips, "Only the machine has less friction."[11] Like the ancient *Deus ex machina,* Jarry's modern *machina ex Deo* still relies on *ingenium* to resolve a conflict. This shift in world-views, however, does not necessarily lead to an enlightened or liberal position. "God does not exist," says Jarry; instead, "he is called by another name … No longer paradise, but the Future, Truth, Justice, Progress, all equals, all bourgeois."[12]

Since the eighteenth century, *ingenium* has belonged to the human realm. It is a natural condition but, as Jarry suggests by adding the Latin term *discipulus* [disciple or pupil], its lessons can be passed on. Cunning intellect is part of Jarry's phenomenology because it has a way of "opening the senses to the phenomenal world."[13] He says that

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[9] "Apodictic, demonstrative speech is the kind of speech which establishes the definition of a phenomenon by tracing it back to ultimate principle, or *archai*. It is clear that the first *archai* of any proof and hence of knowledge cannot be proved themselves because they cannot be the object of apodictic, demonstrative, logical speech; otherwise they would not be the first assertions. … But if the original assertations are not demonstrable, what is the character of the speech in which we express them?" Ernesto Grassi, *Rhetoric as Philosophy: The Humanist Tradition* (University Park, PA and London: Pennsylvania State University Press, 1980), 19.
[10] Jarry, *Oeuvres complètes*, 1:462.
[11] Ibid.
[12] Ibid., 2:463.
[13] Karen A. Hodges, "Unfolding Sophistic and Humanist Practice through Ingenium," *Rhetoric Review* 15, no. 1 (Fall 1996): 86.

"there is a constant relationship between the verbal phrase and all senses."[14] In the pataphysical search for "imaginary solutions," *ingenium* can be understood as "a human way of knowing that includes the actual in a particular context and the extraordinary with the concrete."[15]

Fig. 4.1 Jarry on his bicycle at Corbeil

"Man has familiarized himself with those formidable beings which we know as machines," explains Apollinaire, and from this familiarity "new domains open up for the activity of his imagination."[16] The machine, particularly Jarry's bicycle, is a "new organ" that promotes active knowledge. According to Jarry, a person "should make use of this geared machine to catch shapes and colours in the shortest time possible … as if rapidly sifting in a river for precious stones; … after this assimilative process the spirit is much better equipped to recreate its own new shapes and colours."[17] Jill Fell notes that Jarry's

[14] Jarry, *Oeuvres complètes*, 1:179.
[15] Hodges, "Unfolding Sophistic and Humanist Practice," 86.
[16] Guillaume Apollinaire, "The New Spirit and the Poets," in *Selected Writings of Guillaume Apollinaire*, trans. Roger Shattuck (New York: New Direction Books, 1971), 229.
[17] Jarry, *Oeuvres complètes*, 1:770.

practice anticipated those of the Futurists and Surrealists.[18] The Futurists believed that the speed of the machine is a modern phenomenon and a source of new opportunities (see fig. 4.1) and the Surrealist made equal use of it as well.[19]

To promote creativity, as a thoughtful rider would realize, the machine relied on certain conditions. Jarry's bicycle would not have operated without the ground, a rider, or limits of operation (pedals and cranks rotating in a certain direction, turning radius, etc.). This background condition included the city. At this time, "city life was becoming episodic."[20] The modern city, with its vehicles and other mechanisms that Jarry loved, "delivers its experience in discrete packets."[21] This is evident in the fragmentary structure of Jarry's stories and his interest in details.

Jarry was aware that his adoption of the machine as an impetus to creativity was a common literary trope. "The day arrived, brought in gardeners' carts like the rolling of the sea curled up in porcelain."[22] In the past, the rumble of a tradesman's cart sparked the imagination. As Teresa Bridgeman points out, this trope is also found in the work of Gustave Flaubert.[23] "At night, when the carriers passed under her windows in their carts … she awoke, and listened to the noise of the iron-bound wheels. … And she followed them in thought up and down the hills, traversing villages, gliding along the highroads by the light of the stars. At the end of some indefinite distance there was a confused spot, into which her dream died."[24] According to Jarry, it was obvious that "food" gathered

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[18] "He [Jarry] considered that rapid movement and speed were closely linked to poetic inspiration." Jill Fell, *Alfred Jarry: An Imagination in Revolt* (Madison, Teaneck: Fairleigh Dickinson University Press, 2005), 50.

[19] Jarry's position (though mediated by the machine) is also reminiscent of Giambattista Vico: "Fantasy collects from the senses and connects and enlarges to exaggeration the sensory effects of natural appearances and makes luminous images from them, in order to suddenly blind the mind with lightning bolts and thereby to conjure up human passions in the ringing and thunder of this astonishment." Although Vico's work was known in France at the time, to the best of my knowledge there is no reference to it in Jarry's corpus. See Giambattista Vico, *On the Most Ancient Wisdom of the Italians*, trans. L.M. Palmer (London: Cornell University Press, 1988), 31–4, 96–104. Originally published in 1710.

[20] Hugh Kenner, *The Mechanic Muse* (New York and Oxford: Oxford University Press, 1987), 11.

[21] Ibid.

[22] Jarry, *Oeuvres complètes*, 1:748.

[23] Teresa Bridgeman, "On the 'Likeness' of Similes and Metaphors (With Special Reference to Alfred Jarry's *Les Jours et les nuits*," *The Modern Language Review* 91, no. 1 (Jan. 1996): 75.

[24] Gustave Flaubert, *Madame Bovary* (Paris: Garnier Flammarion, 1966), 91.

while on the machine was superior, as "the cinematograph was advantageous to the stereoscope."[25] On his bicycle, a creative individual would be mobile relative to his musings. This approach would be used by the Cubist painters in the coming years.

"Since the invention of the bicycle established an epoch, man has extended the amplification of his powers through mechanical means," the architect Paul Nelson noted.[26] "The house must then be a machine which amplifies our sensation of life."[27] Like Jarry's bicycle, the architectural machine is not just a seductive image or a planning strategy; it amplifies possibilities and inspires the imagination.

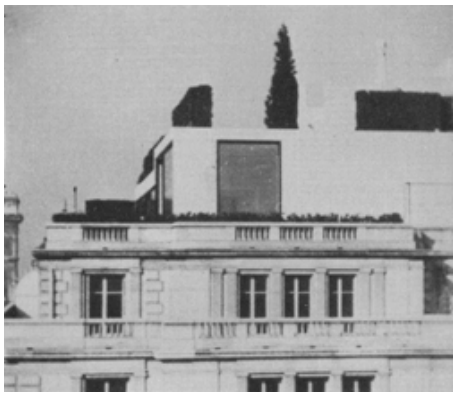


Fig. 4.2. Apartment for Charles de Beistegui, Paris (1930–31)

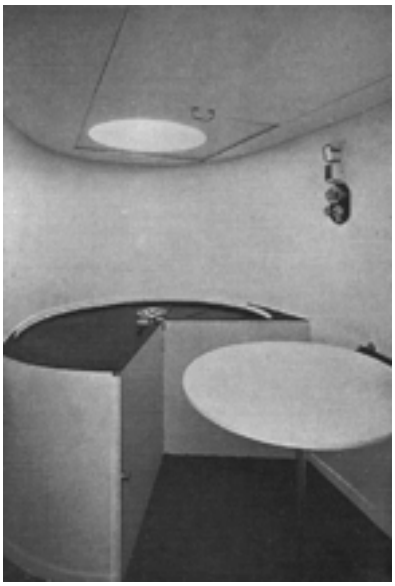
Le Corbusier's rooftop apartment for Charles de Beistegui on the Champs-Elysées in Paris "worked" in this fashion (see fig. 4.2). It was designed not for dwelling but for events, particularly social gatherings. It was composed of a simple interior and a multilevel roof garden surrounded by walls and parapet hedges. Although the apartment was completely wired for electricity, it was not illuminated by artificial light. Its spaces were lit by candlelight. Electricity was used instead to operate sliding partitions in the apartment and mechanical lifts that held the hedge walls. Some of the lifts dropped in and out of sight, while others rotated at the push of a button. The hedges acted as masks: when removed, they revealed selected monuments of Paris: the Eiffel Tower, Tuilleries Palace, and Notre Dame. Le Corbusier justified this project absurdly by referring to its "4,000 meters of electrical cord" – something Jarry would have loved.[28] The apartment's dominant feature was a periscope that worked like a camera obscura, casting shadowy images of the city

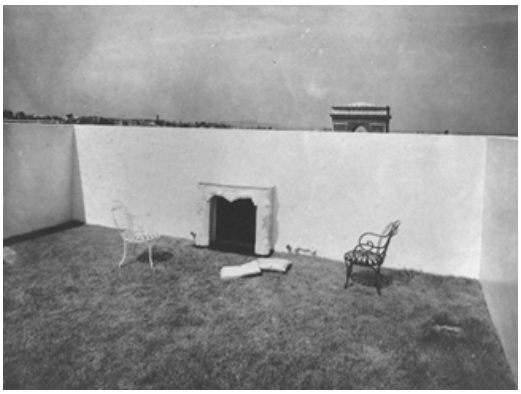
[25] Jarry, *Oeuvres complètes*, 1:770.
[26] Paul Nelson, "La Maison de la rue St. Guillaume," *L'Architecture d'Aujourd'hui* 9 (Nov.–Dec. 1933): 9.
[27] Ibid. This quotation referred originally to Maison de Verre on rue St. Guillaume in Paris, which was built for Dr. Dalsace as both his home and his gynecological office. The tenant on the top floor, an older woman, refused to move from her "sordid apartment," so that part of the eighteenth-century building was left in place and the new house was inserted below it. The height was sufficient for three new floors: the first floor for the medical practice, the second floor for social life, and the third floor for "nighttime privacy."
[28] Le Corbusier and Pierre Jeanneret, *Oeuvre Complète 1929–1934* (Zurich: Editions Girsberger, 1935), 53.

onto a tabletop in a small interior chamber, as if it were a shadowy banquet hall (see fig. 4.3). The apartment resembled a nautical vessel floating amidst the broad boulevards of Paris, akin to Dr. Faustroll's bed/boat/sieve that enabled its protagonists to travel from Paris to Paris over dry land. Le Corbusier's architectural machine was equally intent on transforming reality. It also operated rhetorically, as an ingenious, "thoroughly indicative" mediation between the apartment's guests and the urban context beyond. Its connections to the city were not direct but hidden and exaggerated. Like Faustroll shrinking himself, the guests found themselves in a mechanized city that was "smaller than itself."[29] Through similitude, Jean Chalgrin's Arc de Triomphe turned into a fireplace in the solarium, the project encouraged guests "to examine any disturbances which this change in scale has on their reciprocal relation" (see fig. 4.4).[30] In this way, the work provided alternate frames with which the guests could "see" more fully.

Fig. 4.4 Solarium with fireplace and Arc de Triomphe, Beistegui apartment

ig. 4.3 Chamber, table, and amera obscura, Beistegui partment





[29] "Other madmen cried repeatedly without end that the figure one was at the same time bigger and smaller than itself, and proclaimed a number of similar absurdities as if they were useful discoveries." *Le Talisman d'Oromane*, quoted in Jarry, *Oeuvres complètes*, 1:670.
[30] Ibid.

THE WILL AND CONTINGENCY

Jarry's pataphysical line of questioning showed that the well-worn distinction between the liberal arts and the mechanical arts was still prevalent, although modernity favoured the mechanical arts due to their utility and capacity to generate predictable results. Jarry understood that technological practice (as an expression of the will) "is always a matter of mortal eyes, hence vulgar and highly flawed" and is "reinforced by scientists' microscopes." He recognized that mechanisms are not neutral. Machines are biased amplifications of perception. These could be problematic because "the scientific instrument magnifies that sense in the direction of its error."[31] Therefore, he believed that scientists hardly act from an objective position.

The pataphysician's world instead embraces accidents and opacity, recognizing exceptional phenomena and the erotic space/place of the world.[32] As I have begun to argue, Jarry encouraged an overturning of technological practice, so when he described machinations that produce unexpected results – such as a machine that moves perpetually or without recognizable cause – people would be baffled. Jarry's thinking retained important traces of the ancient machine, with its capacity for trickery and wonder.

A scene from *Ubu Cocu* illustrates my point. It is an exchange between Père Ubu and his Conscience, which resides in a case outside his body. He begins by asking a question:

> PERE UBU: ... would it be a good thing to kill Mister Achras who has had the audacity to come and insult me in my own house?
>
> CONSCIENCE: Sir, and so on and so forth, to return good with evil is unworthy of a civilized man. Mister Achras has lodged you; Mister Achras has received you with open arms and made you free of his collection of polyhedra; Mister Achras, and so forth, is a very fine fellow and perfectly harmless; it would be a most cowardly act, and so forth, to kill a poor old man who is incapable of defending himself.
>
> PERE UBU: Hornstrumpot! Mister Conscience, are you so sure that he can't defend himself?
>
> CONSCIENCE: Absolutely, Sir, so it would be a coward's trick to do away with him.

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[31] Ibid., 1:795.

[32] See Henri Bergson, *Time and Free Will: An Essay on the Immediate Data of Consciousness*, trans. F.L. Pogson (London: George Allen & Unwin, 1950), 73.

> PERE UBU: Thank you, Sir, we shan't require you further. Since there's no risk attached, we shall assassinate Mister Achras, and we shall make a point of consulting you more frequently, for you know how to give us better advice than we had anticipated.[33]

It should be remembered that Père Ubu is a machine. His "coward's trick" thwarts expectations and challenges deterministic thought. Such reversals were paramount for the creative capacity of Jarry's science. He turned habitual concepts on their head. He saw a "vacuum" rushing to the margins instead of arguing that a falling object rushed towards a centre. This intentionally confounded expectations and the ease of universal assent:

> All cultures inculcate norms of human behaviour and find some order in nature, but ours is the only culture which tries to make the social and natural order total by transforming or destroying all exceptions. Kierkegaard already saw that the individual or exceptional was menaced by levelling. Heidegger sees that all our marginal practices are in danger of being taken over and normalized.[34]

Privileging exceptions (accidents and contingent aspects) is a marginal practice that has been pursued by certain architects, such as Frederick Kiesler.[35] He believed that this type of work could guide "lost sheep and the collective herd back to the juicy roots embedded in nature's creative subconscious instead of encouraging them to take refuge in research and statistitching."[36]

Jarry was well aware that this approach would have profound implications for creative work. In a short essay, "Du mimétisme inverse chez les personnages de Henri de Régnier," he discusses fictional characters who enact a form of "exomosis": the inverse

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[33] Alfred Jarry, *Ubu Cocu,* trans. Cyril Connolly (New York: Grove Press, 1965), 79–80. Jarry, *Oeuvres complètes*, 1:496.

[34] Herbert Dreyfus, "Heidegger on the Connection between Nihilism, Art, Technology and Politics," in *The Cambridge Companion to Heidegger*, 2d ed., ed. Charles B. Guignon (New York: Cambridge University Press, 2006), 358.

[35] Frederick Kiesler, "Design-Correlation: Marcel Duchamp's Large Glass," *Architectural Record* 81, no. 5 (May 1937): 53–60. Kiesler and Duchamp met in Paris in the mid-1920s, ran in the same artistic circles, and were friends for nearly a quarter of a century. Duchamp even rented a room in Kiesler's New York apartment for twelve months. Kiesler interpreted Duchamp's work as "architecture, sculpture and painting in one." It was simultaneously a window and a wall, like the plate glass of modern buildings. Its "surface and space" made "an enclosure that divides and at the same time links." He saw it binding various indeterminate states: motion and rest, transparency and opacity, etc.

[36] Ibid., 54.

of what certain animals do to blend into their surroundings by imitating it. He argued that a butterfly that "*imitates* a dead leaf" accepts an inferior position.

> Therefore, if, in order to become indistinguishable from the environment in which it wants to go on living – for "living" is meaningless without continuity – the animal apes its surroundings, it is because it admits to being weaker than they are: it respects the power of what is – or what it considers to be – invulnerable, since it knows they will live longer than itself.[37]

Rejecting the inferiority of fitting in, he proposed a different process of creativity. As Jill Fell has pointed out, this essay seems to present his own ideas more than Henri de Régnier's work.[38] Jarry's exomosis analogy described a transfer between two areas with different qualities. Transfers that move "outward" from a strong, exuberant character to a weaker character enable particular works to swell space in their wake. They "congeal [*figent*] their surroundings into their own image and *erect palaces* of space around themselves."[39] His architectural analogy between a creative work and its contextual world developed a correspondence that was expansive rather than reductive.

At first this seems like a highly modernist approach of a creative subject projecting their originality upon the world. It may even seem like he is advocating changes that would rent the stable fabric of the theological and cosmological world view and level the standards that once were paramount (the divine, heroes, etc.).[40] In many ways, he was doing this. According to Jarry, "Science, say the bourgeois, has dethroned superstition."[41] In its wake, asks Nietzsche, "must we ourselves not become gods" and construct our world?[42] This leads to fragmentation (political, religious, and ideological)

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[37] Jarry, *Selected Works*, 91. Jarry, *Oeuvres complètes*, 2:415.
[38] Jill Fell states clearly that this essay is "one of the main foundation stones of his personal aesthetic code." Fell, *Alfred Jarry: An Imagination in Revolt*, 44.
[39] Jarry, *Oeuvres complètes*, 2:415.
[40] "Modernization is a process by which capitalism uproots and makes mobile that which is grounded, clears away or obliterates that which impedes circulation, and makes exchangeable what is singular. This applies as much to bodies, signs, images, languages, kinship relations, religious practices, and nationalities as it does to commodities, wealth, and labor power." Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1991), 10.
[41] Jarry, *Oeuvres complètes*, 1:795.
[42] Friedrich Nietzsche, *The Gay Science*, ed. Bernard Williams, trans. Josefine Nauckhoff (Cambridge: Cambridge University Press, 2003), 119–20.

and continuous change.[43] As stable references are eclipsed, originality becomes a primary metric. This position was clearly articulated by Jarry's early collaborator Remy Gourmont, in his *Book of Masks*:

> A writer's capital crime is conformity, imitativeness, submission to rules and precepts. A writer's work should be not only the reflection, but the magnified reflection of his personality. The only excuse a man has for writing is to express himself, to reveal to others the world reflected in his individual mirror; his only excuse is to be original.[44]

According to Gourmont, artists benefit from recognizing their individual difference: "for to exist is to be different."[45] This difference then should be projected wilfully into the world because the world is there to be shaped according to the creator's image.

The exceptional nature of phenomena, according to Jarry's science, suggests that neither our machines nor we are solely responsible for a phenomenon coming into being. In pataphysics, creativity is sought also in the contingent, as shown in two primary examples. The first was in Jarry's essay "La Mécanique d'Ixion," in which the "play" within the wheel's rotation enables Jarry to "relive his past experience," after which he "moves outwards" into a "new world."[46] The second example is in Book Six of the Faustroll narrative, which describes the workings of the "Machine à Peindre" (see fig. 4.5). It creates works of art in the Palace of Machines, a large, iron-frame building left over from the 1889 Paris Exposition. This machine is given the name "Clinamen," which comes from Lucretius's first-century B.C. philosophical poem *De rerum natura* (*On the Nature of Things*), where it refers to a chance swerve in falling atoms that actually enables the elements and all that is to exist:

> So that the mind itself may not be subject
> To inner necessity in what it does -
> And fetch and carry like a captive slave -
> The tiny swerve of atoms plays its part

---

[43] "Modernity is a polemical tradition which displaces the tradition of the moment, whatever it happens to be, but an instant later yields its place to still another tradition which in turn is a momentary manifestation of modernity. Modernity is never itself; it is always *the other*." Octavio Paz, *Children of the Mire* (Cambridge, MA: Harvard University Press, 1974), 1.
[44] Remy de Gourmont, *The Book of Masks*, trans. Jack Lewis (Boston: John W. Luce, 1921), 15.
[45] Ibid., 16.
[46] Jarry, *Oeuvres complètes*, 2:405–7.

At unanticipated times and places[47]

The machine plays a mediating role to reveal the creative potential of a chance swerve. Recognizing this helped one avoid being a slave to the deterministic.[48] According to Nietzsche, "Indeed, now and then someone plays with us – good old chance; … occasionally chance guides our hand, and the wisest providence could not invent music more beautiful than what our foolish hand then produces."[49] The painting machine runs on a perpetual cycle within the empty Parisian building. It gyrates, spins, and bounces off the building's columns as the colours in its gut are "ejaculated" onto thirteen canvases hung on the interior walls. These works retain links to stories, instead of becoming abstractions like the works produced by Jean Tinguely's Meta-matics.[50] Unlike

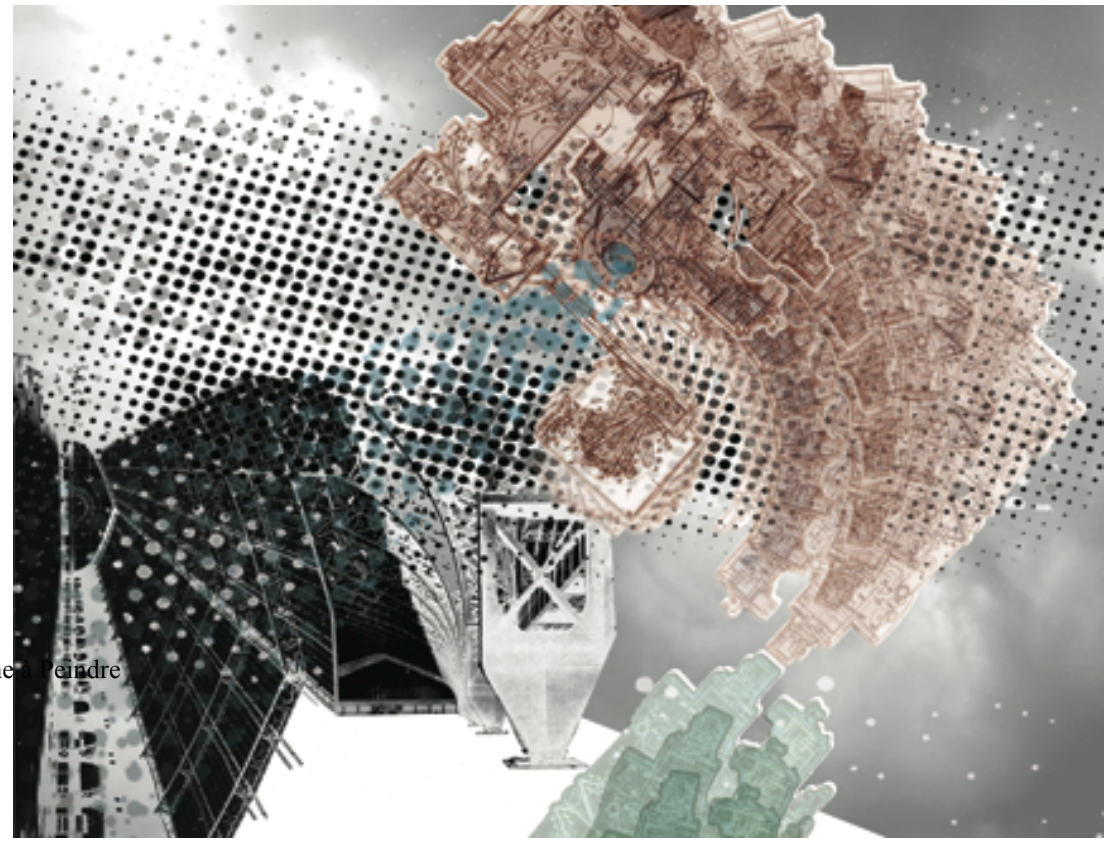

Fig. 4.5 Machine à Peindre

[47] Lucretius, *De rerum natura*, trans. W.H.D. Rouse, Loeb Classical Library (Cambridge, MA: Harvard University Press, 1975), 113.
[48] "The Clinamen … in its arbitrary fall (Chance)." Jarry, *Oeuvres complètes*, 1:249.
[49] Nietzsche, *Gay Science,* 158.
[50] Isabelle Krzywkowski, "Les '13' images," in *Alfred Jarry et les Arts* (Tusson: Du Lérot, 2007), 129–38.

the machines that were once housed in the engineered Palace of Machines, Jarry's machine avoids standardized results and repetitive tasks. He followed the tradition of architectural machines were *techne* is associated with chance (*tyche*). Jarry's sexual analogy also linked the mechanized creativity of the Painting Machine to the cosmogenesis of Lucretius. It could even be taken as a diminished response to St. Augustine's question to the Divine: "What tool [*machina*] did you use for this vast work?"

Opening oneself up to the contingent during the creative process is not easy, particularly for architects interested in control. But there are examples of great sophistication. The design and construction of Maison de Verre, for instance, used schematic drawings for its general organization, but the finer grain of the project such as its detailing was dealt with not in drawings or models but *in situ*, on the construction site. While buildings during the 1920s and 30s were hardly documented to the degree they are today, this was not conventional. Embracing the contingent in this way normally invites the irrational and problems. Although, as both Bergson and Jarry noted, this is what already happens, even if we tend to try to control every things, including seeing habitual patterns.[51] Jarry's science simply points out that our everyday world includes many circumstances beyond our control. Hannah Arendt maintained that the contingent is "an act that by definition can also be left undone," and therefore is associated with free will.[52] "Implicit in the faculty of the Will" is the "notion of human freedom." Freedom of choice, the desire for something new, and the unpredictable typically were defeated by the power of divine providence or by mechanistic laws of causality. Therefore, it is no surprise that pataphysics "will examine the laws governing exceptions" because "free acts are exceptional," according to Henri Bergson.[53] The pataphysical embrace of radical contingency and chance is double-edged: If all is indeed accidental, the totalizing (i.e., technological) will is castrated and the future cannot be secured completely – a "circumcision of fore-sight."

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[51] See Bergson, *Time and Free Will*, 73. Against the causal relation of events and asserting the exceptional nature of free acts, Bergson argues that phenomena are ordered retroactively.
[52] Hannah Arendt, *The Life of the Mind*, vol. 2: *Willing* (New York: Harcourt Brace Jovanovich, 1978), 29.
[53] Bergson, *Time and Free Will,* 167.

Indeed, this involves a particular way of seeing. Pérez-Gómez and Louise Pelletier observe, "Indeed, pataphysics reminds us that the conditions necessary for life do not exclude those necessary for vision or vice versa."[54] Jarry discloses that pataphysics "can be written only in an invisible ink, 'sulphate of quinine', whose words remain unseen until read in the dark under the "infrared rays of the spectrum whose other colours [are] locked in an opaque box."[55] The vision necessary for pataphysical creativity is linked to darkness and "seeing" in the dark.[56] Normal sight in the light of day does not account for the pataphysician's broader experiential spectrum.[57]

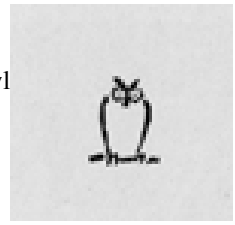

Fig. 4.6 Wood block print of owl

Jarry may have developed this idea from his intimate knowledge of owls (see fig. 4.6).[58] An owl, of course, is a nocturnal animal with day-blind eyes. It is also the ancient symbol for Minerva, goddess of handicraft and wisdom. I am reminded of a plate from Level B in Le Corbusier's *Le Poème de l'angle droit* (1955), which poetically describes the creativity of the architect according to wide-ranging themes, both natural and artificial. The meaning of *droit* [the right angle] in the title is central to its concerns. Le Corbusier's text, with corresponding images, is arguably a "pataphysical text."[59] Following his earlier

Fig. 4.7 Le Corbusier, *Ubu, composition polychrome à Ozon* (1965)

[54] Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge, MA: MIT Press, 2000), 296.
[55] Jarry, *Oeuvres complètes*, 1:667.
[56] Elsewhere he talks of ultra-violet rays invisible to the human eye. Ibid., 2:432–5.
[57] This was a larger sentiment due in part to scientific discoveries during the period, such as X-rays. See Linda Dalrymple Henderson, *Duchamp in Context: Science and Technology in the Large Glass and Related Works* (Princeton: Princeton University Press, 2005).
[58] Picasso was claiming that his pet owls were the kin of Jarry's.
[59] Pérez-Gómez and Pelletier, *Architectural Representation*, 297.

Purist proclamation against "jarryisme," he had developed a newfound interest in Jarry's work and eventually embraced it in his own terms and iconography.

In 1946, after the completion of Usine Claude et Duval in Saint-Dié-des-Vosges, France, Le Corbusier published several drawings and a photograph of a carved wood sculpture (see fig. 4.7). All of these new works consisted of "a series of biomorphic monsters known simply as 'Ubus' after Jarry's well-known and preposterous character 'Ubu Roi'."[60] He started by drawing the already grotesque body of Père Ubu, with its various appendages pulled from its core and manipulated. According to William Curtis, "These paintings seemed to sum up the artist's mixed feelings of futility and irony, and correspond to a mental state of withdrawal."[61] But this assessment is too negative. Nonetheless, Le Corbusier described seeing Père Ubu, "everywhere the machinery of our society convulsed."[62] Once again, Père Ubu was linked to the machine. Le Corbusier said that Père Ubu began to appear in his work sometime during the Second World War.[63] He developed Ubu works on paper, in paintings, and in wooden sculptures with the help of Joseph Savina the *ébéniste*.[64]

Fig. 4.8 B.3 (l'esprit)

The relation between Ubu and Le Corbusier's *Poème de l'angle droit* is found in its broader intentions and its Ubu-esque visual language.[65] Noting the pataphysicality of this text, I can return to the image on level B (*l'esprit*) of

[60] William J.R. Curtis, *Modern Architecture Since 1900* (New York: Phaidon Press, 2009), 417.
[61] Ibid.
[62] Le Corbusier, letter to Savina, 28 August 1947, in F. Franclieu, *Le Corbusier – Savina: dessins et sculptures* (Paris: Fondation Le Corbusier, 1984), 89.
[63] Alice Gray Read, "Le Corbusier's 'Ubu' sculpture: remaking an image," *Word and Image* 14, no. 3 (July–Sept. 1998). Formal similarities between Ubu and Ronchamp (particularly its plan) have been noted.
[64] "This type of sculpture belongs to what I call acoustic art; in other words, these forms emit and listen." Letter to Savina, 28 August 1947, in Franclieu, *Le Corbusier – Savina*, 89.
[65] There is also an emblem of Ubu on the reverse side of *Poème*. Pérez-Gómez and Pelletier, *Architectural Representation,* 358.

the Iconostase: an owl appears at the base of a building, similar to its typical position in ancient Greek statues of Athena. It is delineated in white on a slightly larger dark form, just below the ground line of the building's section (see fig. 4.8). This juxtaposition is not fortuitous. Stillman notes that the "nyctalopic eyes" of the owl "symbolize Being and human creativity."[66] In short, the vision needed for creativity is not found in light (i.e., enlightened and rational sight) but in opacity and darkness. Like Père Ubu's unbidden visit, creativity is not predictable. Le Corbusier welcomed the arrival of creative wisdom, like the owl that "found its own way here without being called."[67] According to Charles Morin, Jarry's grade school friend and co-creator of the stories involving their teacher, the name Ubu "better evokes the idea of the owl."[68]

Jarry has Doctor Faustroll explain the subtleties of why fortuitous events are not entirely random: "I do not believe that an unconscious murder is therefore without reasoning: it is not governed by any command emanating from us and has no link with the precedent phenomena of our self, but it certainly follows an external order, it is within the order of external phenomena, and it has a cause that is perceptible by the senses and is thus salient."[69] If we recall that Jarry, like Thomas de Quincy, considered murder a fine art, this statement will have more meaning.[70] He believed that creativity is not governed entirely by willed action, nor entirely by circumstances outside the natural order of things. Instead, it seems closer to the medieval concept of the preternatural: the domain of monstrous births and other mysterious anomalies, including machines that evoked wonder. It was positioned tenuously between the natural (known cause) and supernatural (divine cause). Although this medieval concept was abandoned long ago, a modern creative work may display similar semi-inscrutable qualities.[71]

At the same time, creativity has its limits. An architect whose work enters the public realm recognizes that its use and its future cannot be fully controlled. Jarry's novel

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[66] Linda Klieger Stillman, *Alfred Jarry* (Boston: Twayne, 1983), 62.
[67] Le Corbusier, *Le Poème de l'angle droit* (Milan: Mondadori Electa, 2007).
[68] It was likely an erroneous association. Charles Chassé, *Dans les Coulisses de la Gloire, D'Ubu-Roi au Douanier Rousseau* (Paris: Nouvelle Revue Critique, 1947), 37–8.
[69] Jarry, *Oeuvres complètes*, 1:700.
[70] Thomas de Quincy, "On Murder as one of the Fine Arts," in *De Quincy: A Selection of His Best Works*, ed. W.H. Bennett, vol. 2 (London: Stott, 1889). Jarry, *Oeuvres complètes*, 1:700.
[71] Katherine Park and Lorraine J. Daston, "Unnatural Conceptions: The Study of Monsters in Sixteenth- and Seventeenth-Century France and England," *Past & Present* 92 (Aug. 1981): 36.

Le Surmâle (set in the 1920s) includes a description of the outside of André Marcueil's château, which is the setting for much of the story. In this context it "seemed more than natural" that a wrought iron lamp was retrofitted with an arc lamp. As another example, he considers the broad lines of a driveway:

> The architect, by some obscure premonitory flash of genius, had designed them, three hundred years in advance, for modern vehicles. There is certainly no reason for men to build enduring works if they do not vaguely imagine that these works must wait for some additional beauty with which they themselves cannot invest them, but which the future holds in store. Great works are not created great: they become so.[72]

An architect uses will to make "great" things, although the capacity of the will is limited because the work depends also on fate. The pataphysician does not repudiate the will, for without it nothing happens. Jarry espouses the free act but limits the will's reliance on calculative thought and technological imperatives. Is Jarry's Père Ubu *not* also a patent symbol of the failures of such ill motivated and wilful projections? The

Fig. 4.9 Le Corbusier with E.4

Fig. 4.10 E.4 (caractères)

Fig. 4.11 Ouverture d'Ubu Roi

answer is, perhaps too obviously, yes. This has ethical implications.

[72] Jarry, *Oeuvres complètes*, 2:203.

Le Corbusier's *Poème de l'angle droit* includes a segment on the architect's construction of order. E.4 (*caractères*) resembles Jarry's drawing of Père Ubu in many ways (see figs. 4.10 and 4.11). Ubu continued to visit Le Corbusier during the last twenty years of his life, until his death in the Mediterranean (see fig. 4.9). Their relationship became so close that the famed architect identified himself with Jarry's figure, signing "Ubu-Corbu" to a drawing in 1965. In the Nivola House in the East Hamptons, New York, Le Corbusier painted a mural with the figure of Ubu on the right side (see fig. 4.12). Like himself as an architect, Ubu enters the Nivola image as a guest through the wooden door and becomes something of an imposition. In the E.4 image from the poem, Ubu imposes his shadow over the geometric lineaments beyond.[73] I refer to this form as a shadow because in the sketch of the schematic Iconostase the darkened area in E.4 does not appear over the black lines on the white background (see fig. 4.13). Looking more carefully at the plate of E.4, Peter Carl argues, is about "architectural creativity – including a vivid description of auto-parturition, in which the first-person voice of the poem, evidently Le Corbusier, gives birth to an architecture-creature."[74] It expresses the idea that an architect projects an order but dangers exist in this practice. Consequently, the "I" of the speaking architect is represented by the shadow of Ubu-Corbu. This conjoining warns against too much imposition by the architect when making "monsters."

Fig. 4.12 Le Corbusier, Nivola mural

André Marcueil, the main protagonist in *Le Sûrmale*, adopts a similar strategy, using pataphysical "ingenuity" to blend with the crowd, rather than attempting to control his surroundings:

> Conformity with the environment, or "mimesis," is one of the laws of self-preservation. There is less security in killing creatures weaker than oneself than there is in imitating them. It isn't the strongest who survive, for they are alone. There is great wisdom in modelling one's soul on that of one's concierge.

[73] Incidentally, Le Corbusier poses for the photograph with his hand in a similar position.
[74] Peter Carl, "The godless temple, 'organon of the infinite'," *The Journal of Architecture* 10, no. 1 (2005): 71.

> But why should Marcueil have felt the need at the same time to hide and to reveal himself? To deny his strength and to prove it? In order to test the fit of his mask, no doubt …[75]

The character is aware of his capacity to dominate, but chooses to mask it or set aside his will, at least temporarily. Mimesis both wills and wills not to will.[76]

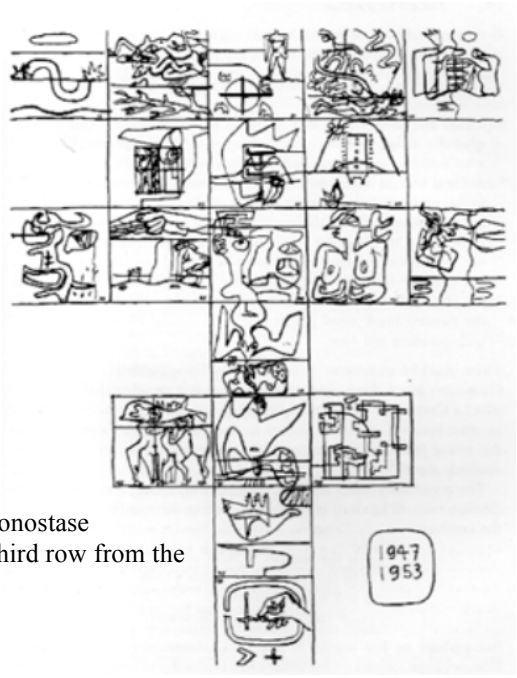

Fig. 4.13 Le Corbusier, Iconostase (F. 4 is on the right of the third row from the bottom)

Jarry's earlier architectural analogy of palatial edification, understood as a *congealing* or *thickening* of the surrounding world into one's own image, shows that he understood the creative process as happening within the very stuff of the world. This process is not the typical Modernist or even Romanticist idea of creation *ex nihilo*. Romanticist creation involved a poetic process in which the artist used creativity to generate – in theory at least – a spontaneous order "out of nothing," a pure willed construction. Linda Klieger Stillman says, "The theme of self-creation, omnipresent in Jarry's works, corresponds to Jarry's cult of subjectivity."[77] This would seem to fall in line with Gourmont's thesis about originality, particularly because self-generation is very much a part of Jarry's characters. But the idea of this dual sense of mimesis (projecting and masking), coupled with the notion of congealing or thickening in the process of edification, problematizes this extreme.

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[75] Jarry, *Oeuvres complètes*, 2:202–3.
[76] Similarly, Mallarmé says that poets need to suspend their will when writing, to let "the words take the initiative" so they may "shine forth, lit up by their reciprocal reflections, like a potential trail of flames over precious stones." Stéphane Mallarmé, "Crise de vers," in *Variations sur un subjet. Œuvres Complètes* (Paris: Gallimard, Bibliothèque de la Pléiade, 1945), 366.
[77] Stillman, *Alfred Jarry*, 46.

Jarry avers that one "cannot create something out of nothing,"[78] but that one can "create out of chaos."[79] Etymologically, *chaos* is a both a space and a substance, akin to the alchemical *prima materia* (or Platonic *chora*).[80] The space in which we live is not an isolated and neutral void, although this has been assumed in Cartesian thinking, in which independent subjects act upon discrete objects. This anterior *chaos* counters the reductive and mechanistic premises of the Newtonian void of physics. The pre-categorical space/place, Plato's "nurse of becoming," was also a premise shared by Friedrich Kiesler's Endless House and its various iterations.[81] Hans Arp noted that in this "egg-shaped structure, a human being can now take shelter and live as in his mother's womb."[82]

Understanding the implications of *prima materia* or *chora* is crucial. They may help resist the fact that the self-same mechanisms "by which we only meant at first to explain our conduct will end by also controlling it … we shall witness permanent associations being formed," Henri Bergson argues, "and little by little … automatism will cover our freedom."[83] Instead we find an erotic space/place that may be grasped only by "spurious reasoning," as Plato reminds us. Pataphysics is such a poetic reasoning. Its creative works attempt to disclose a deeper meaning within the mute horizon of the world prior to its Cartesian division.

MONSTERS

"DEFINITION. Pataphysics is the science of imaginary solutions, which symbolically attributes the properties of objects, described by their virtuality, to their

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[78] Jarry, *Oeuvres complètes*, 1:770.
[79] Ibid.
[80] "Linked etymologically to the Indo-European *chasho*, chaos maintains its connotations as a primordial gap, opening, or abyss, as well as a primordial substance." Alberto Pérez-Gómez, "Chora: The Space of Architectural Representation," in *Chora: Intervals in the Philosophy of Architecture*, vol. 1 (Montréal and Kingston: McGill-Queen's University Press, 1994), 9.
[81] Plato, *Timaeus*, trans. R.G. Bury, Loeb Classical Library (Cambridge, MA: Harvard University Press, 1929), 53a.
[82] Cited by Dalibor Vesely, "Surrealism, Myth and Modernity," *Architectural Design* 48, no. 2–3 (1978): 94.
[83] Bergson, *Time and Free Will*, 237.

lineaments."[84] The pataphysician tries to transform the quotidian through symbolic attributions. This process is done in accordance with an object's existing or implied lineaments, both visible and invisible. This is approached in several ways. One is via appropriation (plagiarism?) and playful repositioning of other works.[85] Jarry intentionally adopted fragments from science, law, and logic and conjoined them to become poetic.

A pataphysician uses certain poetic modes that are allied to practices of the architect. Marco Frascari says, "The highest function of the poet in any productive domain is the invention of monsters."[86] This involves a cunning conjoining of fragments. In most modern buildings, fragments are assembled in a matter-of-fact, even trivial way. This does not qualify them as monsters.

Fig. 4.14. Anonymous Vietnamese woodcut

Historically, a monster displays a "deformity" and is "different" from us. Monsters "combine human, animal, and vegetable feature in an 'unnatural way' while the same features may be differently, but equally 'unnaturally' combined in a painting or described in a tale."[87] They may also conjoin old with new, or real with imaginary, yet, as Jarry remarks, "it is conventional to call monster any blending of dissonant elements" (see fig. 4.14).[88]

Monsters often resided in foreign lands and were known only through stories that evoked both wonder and terror. Many of Jarry's stories present monsters, including their protagonists: Faustroll is part man, part satyr; Ubu is a conjoining of numerous pieces.[89] Some of the more normative machines in his stories are monstrous. The phonograph at

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[84] Jarry, *Oeuvres complètes*, 1:669.
[85] Jarry was well versed in the arts and science of his day; for instance, see Chapter 37 of *Faustroll*. This is also detailed in Linda Dalrymple Henderson, *Duchamp in Context: Science and Technology in the Large Glass and Related Works* (Princeton: Princeton University Press, 2005).
[86] Marco Frascari, *Monsters of Architecture: Anthropomorphism in Architectural Theory* (Savage, MD: Rowman and Littlefield, 1991), 84.
[87] Victor Turner, *From Ritual to Theater: The Human Seriousness of Play* (New York: PAJ Publications, 1982), 27.
[88] Jarry, *Oeuvres complètes*, 1:972.
[89] Fell, *Alfred Jarry: An Imagination in Revolt*, 24–30.

the end of the sexual contest in *Le Surmâle* is described as a "monster" that compels André to "obey" its "order," leading to the death of his partner Ellen. Pataphysical machines likewise are conjoined fragments. Faustroll's time machine is an example:

> The Machine consists of a jointed, ebony frame, analogous to the steel frame of a bicycle. The ebony bars are fixed in place with brass links soldered together.
>
> Three tori (the fly-wheels of the gyrostats), fitted in the three perpendicular planes of Euclidean space, are of ebony sheathed with brass, and are mounted along their axes on rods of spirally-wound sheet-quartz ribbons …, their extremities spinning in quartz pivot-bearings.
>
> The circular rings, or semi-circular forks, of the gyrostats are of nickel. Under the seat and a little in front are the storage cells of the electric motor. There is no iron in the Machine apart from the soft iron of the electromagnets.[90]

The time machine, which keeps its rider invisible to the duration of time, is "based on the contrasting and ironic use of materials." In this work "[c]heap materials are mated with expensive ones, traditional with unusual."[91] The same interest is found in Eileen Gray's furniture, such as, the coupling of metal, leather, and cork with various textures in the dining room table at her home E.1027, which I will discuss shortly.

The material process of conjoining can be either "restorative" or narrow. Jarry argued that a scientist might be a "man of genius in analysis," a process that breaks things down to its simple and contingent parts.[92] "Simplicity does not have to be simple but complexity, compressed and synthesized."[93] But scientists, Jarry worried, "always omit the principle of synthesis."[94] We have already touched on the narrow attributes of calculative thought. Here we are interested in the "restorative" capacity of what Jarry called the "synthetical mind." The practice of synthesizing fragments has a long history. "The restorative or symbolic meaning of fragment can be seen perhaps for the first time in the *spoglia* (spoils) so frequently used in the Middle Ages – or in collections of curiosities in the late Renaissance, or in the cult of poetic ruins, which reached its peak in

[90] Jarry, *Oeuvres complètes*, 1:739–40.
[91] Frascari, *Monsters*, 114.
[92] Jarry, *Oeuvres complètes*, 2:434. Italics in original.
[93] Ibid., 1:172.
[94] Ibid., 2:434. Italics in original.

the 18th century."[95] It returned in the early twentieth century with Synthetic Cubism, collage, and Surrealism. It can be found earlier in the work of the Symbolists and, more importantly, Jarry. According to André Breton, "Faustroll is a milestone in the history of criticism. From analytical, it becomes *synthetic* and rises to the level of an art."[96] His interest in conjoining ruins to make "fine, well-designed buildings" was underpinned by this restorative practice.[97]

Conjoining was central to Jarry's creative intentions. "What is more beautiful than studying conjunctions!"[98] The terms "'Pataphysique," "Ethernité," "Faustroll," and "Gidouille" are a few instances at the level of a single word. This was developed analogically at the level of a character in the third chapter of Faustroll, Book Two, where we are introduced to Bosse-de-Nage, the hydrocephalous baboon who partakes in Faustroll's journey. He himself is a monster because he was physically altered or mis-formed. The colours from his face are relocated to his backside, hinting at his name, which means "bottom-faced." On the journey from Paris to Paris, he humorously disrupts conversations with his "tautological monosyllabic *ha-ha*," to which he would add nothing further. In an English garden, a "ha-ha" was a low-walled ditch that created a visually unobtrusive division between the designed garden and the natural grounds beyond. It is said that the name of this landscape feature comes from the laughter that results when people discover it.[99] Bosse-de-Nage's "ha-ha" works in a similar fashion, as an ambivalent separation/connection. Jarry explained that it symbolizes duality, echo, distance, symmetry, greatness, duration, and good/evil. When this phrase is spoken quickly, the individual syllables are conjoined and are thus the "principle of unity."[100]

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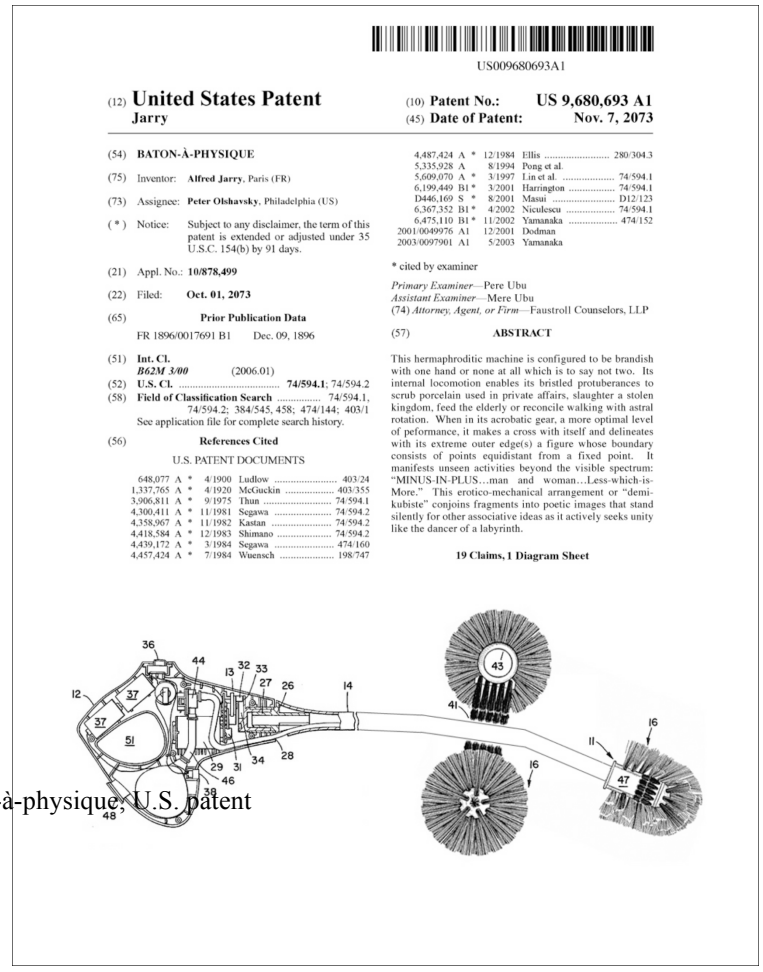
[95] Dalibor Vesely, "Architecture and the Ambiguity of the Fragment," in *The Idea of the City: Architectural Associations*, ed. Robin Middleton (London: Architectural Association; Cambridge, MA: MIT Press, 1996), 111.
[96] André Breton, *Lost Steps*, trans. Mark Polizzotti (Lincoln: University of Nebraska Press, 1996), 38.
[97] For Jarry, "l'art est synthèse." Henri Béhar, *Les Cultures de Jarry* (Paris: Presses Universitaires de France, 1988), 191.
[98] Jarry, *Oeuvres complètes*, 1:337.
[99] S.A. Mansbach, "An Earthwork of Surprise: The 18th-Century Ha-Ha," *Art Journal* 42, no. 3 (Autumn 1982): 217–21.
[100] From Jarry's pronouncement we know that Bosse-de-Nage perceived space in only two dimensions. Therefore he could not comprehend the "Holy Trinity, anything triple, the undefined … the indeterminate, the Universe, nor anyone else." As an embodiment of analytic separation, he was inept at "synthesis." Jarry, *Oeuvres complètes*, 1:705.

Jarry noted that synthesis is what "we call God, a living principle."[101] Unlike the scientist and the bourgeois, "we do not forget the synthetical mind."[102] In the French Symbolist context, "symbols" (including monsters) were able to achieve a living synthesis. They "refused critical, or analytic, commentary in exchange for a flash of immediate insight."[103] The notion of a symbol is best articulated by Gustave Kahn: "The most suggestive … means for seeking the symbol … resides in the interpretation of a subject, not in the subject itself."[104] This is a hermeneutic event when ineffable wholeness suddenly appears and reveals significance. In fact, according to Jarry, this insight extends beyond individual events, as the "All" [Art and Science?] may be understood as a "regular crystal" or a "monster."[105] In other words, monstrosity is at the very heart of human affairs.



US009680693A1

(12) **United States Patent**
Jarry

(10) **Patent No.: US 9,680,693 A1**
(45) **Date of Patent: Nov. 7, 2073**

(54) **BATON-À-PHYSIQUE**

(75) Inventor: **Alfred Jarry**, Paris (FR)

(73) Assignee: **Peter Olshavsky**, Philadelphia (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 91 days.

(21) Appl. No.: **10/878,499**

(22) Filed: **Oct. 01, 2073**

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B62M 3/00 (2006.01)

(52) **U.S. Cl.** **74/594.1**; 74/594.2

(58) **Field of Classification Search** 74/594.1, 74/594.2; 384/545, 458; 474/144; 403/1
See application file for complete search history.

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(57) **ABSTRACT**

This hermaphroditic machine is configured to be brandish with one hand or none at all which is to say not two. Its internal locomotion enables its bristled protuberances to scrub porcelain used in private affairs, slaughter a stolen kingdom, feed the elderly or reconcile walking with astral rotation. When in its acrobatic gear, a more optimal level of peformance, it makes a cross with itself and delineates with its extreme outer edge(s) a figure whose boundary consists of points equidistant from a fixed point. It manifests unseen activities beyond the visible spectrum: "MINUS-IN-PLUS…man and woman…Less-which-is-More." This erotico-mechanical arrangement or "demi-kubiste" conjoins fragments into poetic images that stand silently for other associative ideas as it actively seeks unity like the dancer of a labyrinth.

19 Claims, 1 Diagram Sheet

Fig. 4.15 Bâton-à-physique, U.S. patent

An exaggerated monstrosity is evident in the mechanical device that Jarry

[101] Ibid., 1:796.
[102] Ibid.
[103] Richard Cándida Smith, *Mallarmé's Children: Symbolism and the Renewal of Experience* (Berkeley, Los Angeles, and London: University of California Press, 1999), 22.
[104] Gustave Kahn, "Seurat," *L'Art moderne* 11 (5 April 1891): 110.
[105] This begins to explain his preoccupation with clear gems and alchemy, among other things. It is from opacity that certain things will "shine out" because they are constructed through a complexity drawn taut into simplicity. To the surrealists, the crystal was "a supreme metaphor of spontaneity, imagination and creativity. It also became a principle of order more primordial than the order of reason." Dalibor Vesely, "Architecture and the Ambiguity of the Fragment," 117.

called *bâton-à-physique*. This machine is a conceptual monster rather than a material joining, as in his time machine. It is associated with Père Ubu and can be found in his pocket. The baton in his theatrical productions has been interpreted as a toilet brush because of Jarry's original staging.[106] Its most central role is in the play *César-Antechrist*, where it is included in the cast of characters. The baton is described as a red phallus-like engine that conjoins sexual and mechanical functions (see fig. 4.15). As it rolls across the stage, it forms a minus sign when horizontal and a plus sign (i.e., a cross) at every quarter turn. As it rolls, its outer edge forms a circle. He describes this machine as both positive and negative, Christ and Antichrist, Zenith and Nadir, "MINUS-IN-PLUS … man and woman … Less-which-is-More."[107] It symbolizes the hermaphrodite, as well as the reciprocal play between the creative praxis of a maker and its destructive potential as a "Malthusian Machine."[108]

While the restorative practice of building with ruins can renew and vivify important features, there is another side to creativity. The opening quotation from Jarry, about "demolishing" ruins through architecturing, makes this apparent. As Ortega y Gasset points out, imaginative language is essentially destructive: It is a "desire to get around a reality."[109] It is a "weapon of poetry" that intentionally "turns against natural things and wounds or murders them."[110] This recalls Jarry's statement that "forgetting is an essential condition of the memory."[111] Nietzsche also articulated this sentiment, but more concisely with respect to creativity: "Only as creators can we destroy."[112] Like Ubu's baton, a new turn brings a different reading that wrecks something that was previously in place. Some of Jarry's engravings perform in this way, by conjoining two (and perhaps more) views within the same frame of reference. The observer physically has to rotate an image to destroy one and disclose another.

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[106] W.B. Yeats, *Autobiographies*, ed. William H. O'Donnell and Douglas N. Archibald (New York: Scribner, 1999), 348.
[107] Jarry, *Oeuvres complètes*, 1:289.
[108] Thomas Malthus was a nineteenth-century English economist who advocated population control, contrary to Christian orthodoxy.
[109] José Ortega y Gasset, *Dehumanization of Art: and other essays on art, culture, and literature* (Princeton: Princeton University Press, 1968), 34.
[110] Ibid.
[111] Jarry, *Oeuvres complètes*, 2: 403.
[112] Nietzsche, *Gay Science*, 58.

The baton is the very emblem of such a synthetic event.[113] A similar act is described in the Faustroll narrative. Dr. Faustroll, we are told, wrote the prolegomena to his *Elements of Pataphysics* during a "syzygy of words." Syzygy is a polyvalent term. In astronomy it is the perceptual alignment of three elements: earth, sun, and moon. Etymologically, "syzygie" derives via late Latin from Greek *suzugia*, from *suzugos* 'yoked, paired', and from *sun-* 'with, together' added to the stem of *zeugnunai* 'to yoke'. A yoke is a basic mechanical device made of a horizontal crossmember and fasteners that go around the necks of animals to join them together. To till a field, a plough is attached to this crossmember.[114] An alignment occurs (at least momentarily), with the aid of the mechanism, and another possibility is cultivated. Disclosing a conjunction of opposites is logically paradoxical and therefore antithetical to the criteria of non-contradiction of modern science and technology. Still, it is without a doubt experientially possible: e.g., a love-hate relationship or the bittersweet nature of eros. Richard Cándida Smith has shown that the nature of this sort of revealing in the Symbolist context was a "revelation of synthetic knowledge."[115] A syzygy, like a metaphor, may be a monstrous alignment and wholly unnatural. It is also a way of knowing the world. It is also a potent architectural strategy.

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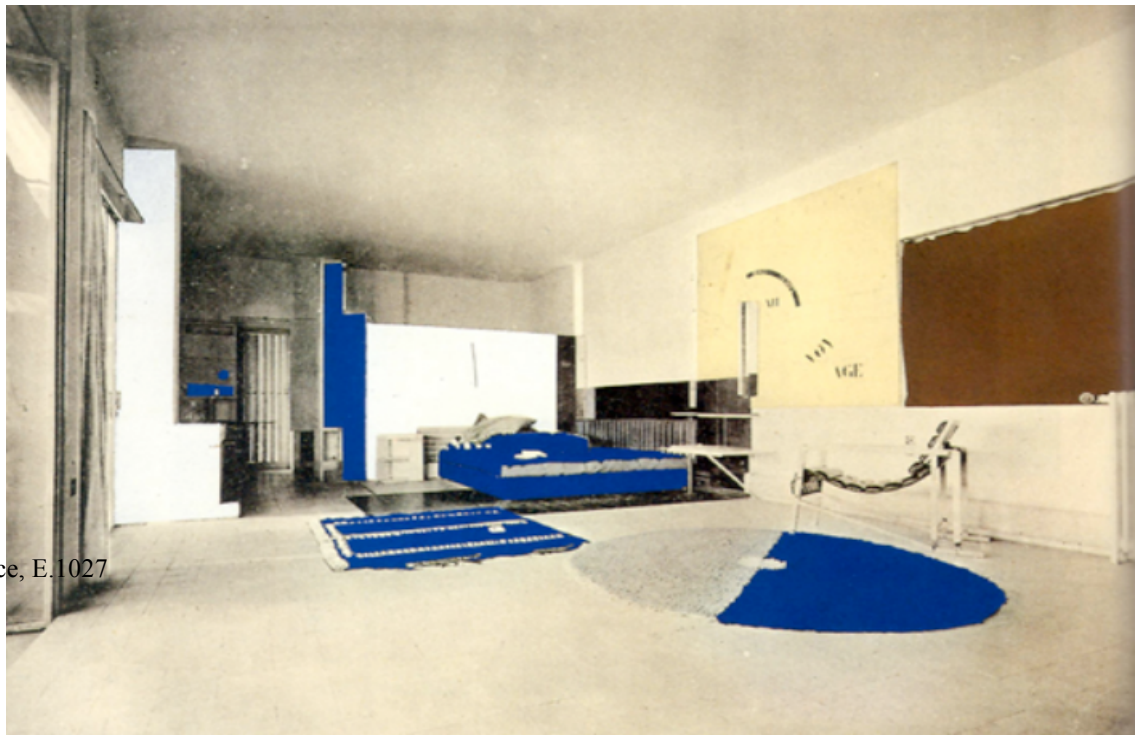
[113] Jarry's baton is further linked to self-satisfaction and more generally to eros. The function of the *bâton-à-physique* is to reconcile the "discontinuity of walking with the continuity of astral rotation." It reconciles the finite and the infinite. Another term Jarry employs for the baton is "demi-kubiste," which has nothing to do with the Cubist movement; it is an archaic Greek term for an acrobat. This person was able to put their feet on their shoulders to complete somersaults. Their body became a spinning wheel describing a circle like the baton. Plato also famously used this term in his *Symposium* to refer to the circular hermaphrodite that was divided in two by Zeus and made to wander around, each searching for its other half. This is furthered by its re-appearance in *Messalina*. Jill Fell points out that he uses nearly identical details of the baton to describe the dance of the character Mnester. A historical figure from the time of the Romans, Mnester is a pantomime actor for Emperor Caligula. The name means 'wooer', 'suiter', and literally 'willing to mind', 'mindful of', and perhaps derives from *mnasthai* 'to remember'. In this scene, Mnester twirls in a circular motion, inscribing the ground. This resonates with the dance of the labyrinth that Fell sees in relation to the Greek *choros*. Fell, *Alfred Jarry: An Imagination In Revolt*, 192.

[114] This image recalls Heidegger's poetic analogy to plowing a furrow: "Thinking cuts furrows into the soil of Being." Martin Heidegger, *On the Way to Language* (New York: HarperCollins, 1982), 70.

[115] Mallarmé also thought that the *revealing* was more important than analytic knowledge. Smith, *Mallarmé's Children*, 17–39.

Architects delight in this condition. In Chareau and Bijvoet's work on Maison de Verre, various opposites are conjoined: e.g., natural and artificial lighting, translucency and transparency, and expensive and cheap materials. Eileen Gray, who was familiar with Maison de Verre, as Caroline Constant points out, "merges organic and mechanistic paradigms."[116] This was done, however, in a more profound way in Gray's E.1027. Her house was set up as an architectural machine (adopting Le Corbusier's "five points") that extends outwards, beyond the immediacy of the *as is*, to a virtual realm and a horizon that is both literal and figurative. It also extends inwards to the embodied individual – a dreaming self – relaxing in a chair in the shade of an awning. However, Gray's design does not try to systematize the whole; it remains episodic.

Gray's interest in conjoining is clearly evident in the main living space (see fig. 4.16). The nautical references on the exterior of the house continue inside. The rugs present an almost literal iconography of charts and instruments. The mural on the north wall is a map of the Caribbean. On the walls there are also phrases such as "beau temps,"



ig. 4.16 Main living space, E.1027

[116] Caroline Constant, *Eileen Gray* (New York: Phaidon, 2007), 118.

"vas-y-totor" (referring to a journey in her car), and "invitation du voyage" (the title of a Charles Baudelaire prose poem). This iconographic and linguistic program carries a visitor's imagination from the immediacy of the house to a virtual realm beyond its walls. Gray later said that the entire work "evokes distant voyages and gives rise to reverie."[117]

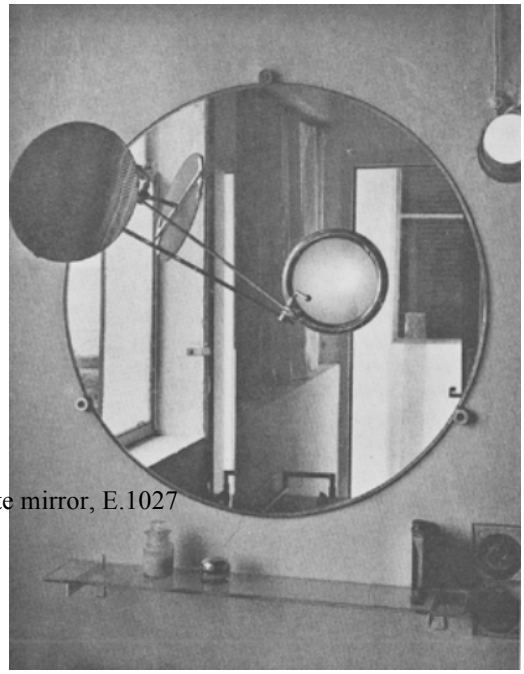


Fig. 4.17. Satellite mirror, E.1027

Gray had been pursuing these intentions for some time. They were evident in her early interiors and lacquer work screens, as well as her furniture for E.1027. "There was no question of logical reasoning or deep examination of the hows and whys," observes Jan Wils, "this furniture is the result of a dream; a dream that can be experienced only when one is in immediate contact with the furniture itself."[118] While the "satellite mirror" in the house's bathroom functions normally as a reflective surface for a face, it also points beyond itself by suggesting that the mirror's two mobile arms (another mirror and a light) are smaller celestial bodies that orbit around the primary (human) body (see fig. 4.17). In other words, these machines link near and far, material and immaterial, and the body with the cosmos. As Badovici noted, "Contemporary man's life mixes dreams and reality, fuses them in the rhythm of a dance of lines. Violent vibrations and peaceful chants join in a dance of ideal arabesques."[119] The dance of monstrosity swells spaces, artefacts, and their seemingly defined boundaries – an achievement that would not be possible with technical reason alone.

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[117] Gray, quoted in Peter Adam, *Eileen Gray: Architect | Designer: A Biography* (New York: Harry N. Abrams, 2000), 205.
[118] Jan Wils, "Eileen Gray: Meubelen en interieurs," *Wendingen* 6, no. 6 (1924): 3. Here work was "on the margins of established commercial circuits and theoretical parades, indissociable remainder of her private life and of an itinerary that again remains mysterious in many ways to this day." Brigitte Loye, *Eileen Gray, 1879–1976: Architecture/Design* (Alencon: Editions Analeph, 1984), 11.
[119] Jean Badovici, "L'Art d'Eileen Gray," *Wendingen* 6, no. 6 (1924): 12–13.

Jarry declared provocatively, "I call monster every original inexhaustible beauty."[120] He used similar language in a letter to Marinetti about the play *Le Roi Bombance* (1909) that the Italian writer had sent him: "Surprise [in the play] is not aimed at laughter but rather the horrifyingly beautiful."[121] As André Breton noted, Jarry believed that the beauty of monsters scorns "blind admiration." He was not interested in the superficial appearance of aesthetics; instead, he "reached for beauty ... beyond the manifest towards *latent* essence."[122] This is a concealed form of beauty that, as Breton said, needs "full reconstruction" to bring to light more than what was immediately present. Monster, for Jarry, is synthetic and is derived etymologically from *moneo* 'to make to think'.[123]

METAPHOR

> Dithyrambic gift of synthesis, the almost monstrous faculty to perceive as similar what all other men have conceived as different.[124]

For Jarry, making monsters was a positive pataphysical practice, even though its results might be grotesque, like Ubu.[125] Rather than conceding the *as is* to mechanical utility, this practice articulates the world differently. The cunning intellect of the pataphysician constructs "imaginary solutions" that, like the characters of Henri de Régnier that Jarry sought in the making of his own work, have the capacity to swell space by identifying similitudes. Louis Lormel found this in excess in his friend's daily practices:

> Alfred Jarry was a great hunter after images and analogies. One day when we were together at the Gare Saint-Lazare, beneath the waiting-room, in the glass ceiling above our heads he saw the feet of passengers appearing and disappearing. From here the idea of an aquarium, conjured up in L'Amour absolu. He also compared steam engines to monstrous insects with moving legs,

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[120] Jarry, *Oeuvres complètes*, 1:972.
[121] Ibid., 3:635–6.
[122] André Breton, "Alfred Jarry, initiateur et éclaireur: son rôle dans les arts plastiques," *Arts* (Oct. 1951), reproduced in André Breton, *La Clé des champs* (Paris: Livre de Poche, 1979), 308–21.
[123] Frascari, *Monsters*, 17.
[124] Claude Lévi-Strauss, "The Art of the Northwest Coast at the American Museum of Natural History," *Gazette des Beaux-Arts* 24 (Sept. 1943): 180.
[125] Turner, *From Ritual to Theater*, 27.

> a train to an accordion, etc. This kind of preoccupation, which is familiar to all writers, with Jarry was a compulsion.[126]

Finding similarities in difference is associated with poetic speech. Speaking poetically may "lead before the eyes" [*phainesthai*] a significance that is transferred [*metapherein*] to the figure it describes. "A house is a machine for living in" is a particularly good architectural example. Jarry would sometimes examine his urban surroundings like a naturalist. Paris's omnibuses became "wild beasts" and "pachyderms," which he classified into two groups: those that cover their tracks (wheeled vehicles) and those that do not (vehicles that travel on rails). "They remain wild creatures and feed on men."[127] He explained that these creatures have a complex digestive system with which their prey are "excreted alive" after "particles of copper" are "extracted."[128] In a more morose interpretation, drowned bodies floating down the Seine became species of fish.

Metaphor, says Ortega y Gasset, is one of "man's most fruitful potentialities. Its efficacy verges on magic, and it seems a tool for creation which God forgot inside one of His creatures when He made him."[129] It is the basis for a deep resonance between literature and the task of the architect. According to Jarry, "Many, seduced naively by the scientific imagination (we do not understand any other imagination), even Wells … endeavours to induce what would happen in another world *if one went there*. (And what happens in another world, *if one is there*?)"[130] Metaphor builds relations that are open enough for one to imagine living within them.

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[126] Louis Lormel, "Les Débuts du Symbolisme: Remy de Gourmont, Alfred Jarry et *l'Art littéraire*," *Le Gaulois* (3 Dec. 1921): 4.
[127] Jarry, *Oeuvres complètes*, 2:330.
[128] Ibid.
[129] Ortega y Gasset, *Dehumanization of Art*, 33.
[130] Jarry, *Oeuvres complètes*, 2:434. Italics in original.

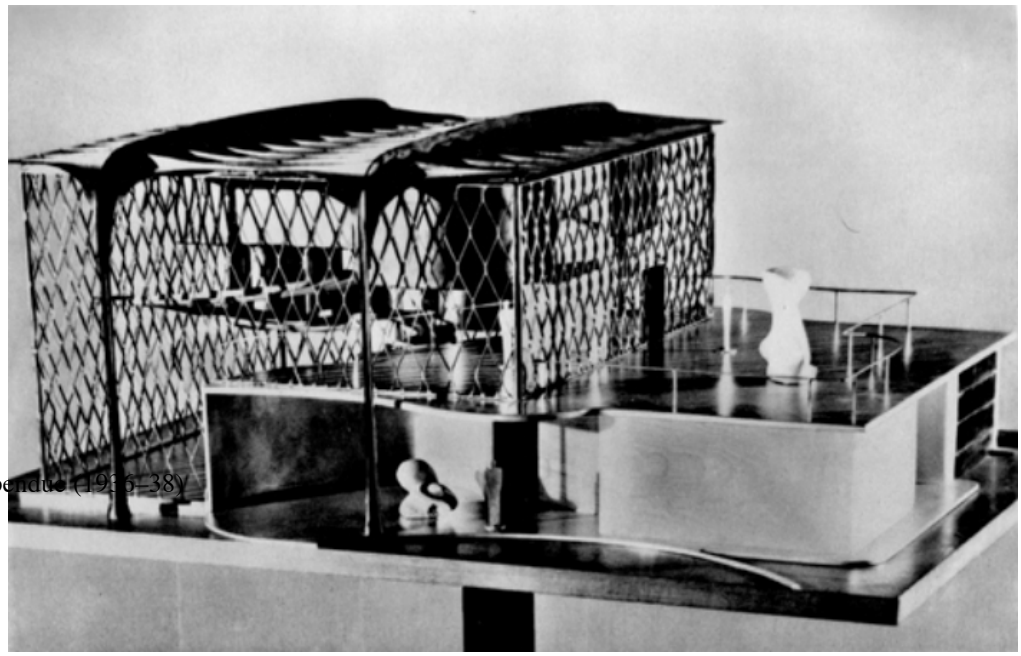
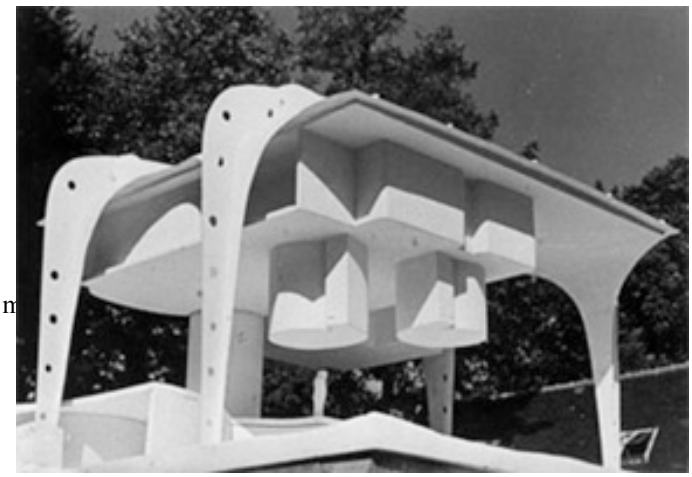


Fig. 4.18 La Maison Suspendue (1936–38)

The "architectural research" that Paul Nelson conducted from 1936 to 1938 worked metaphorically. His project culminated in an intentionally unbuilt work, La Maison Suspendue, that examined the relation between humans and the domestic ensemble.[131] More importantly for my project, he lucidly articulated a machine metaphor

[131] Kenneth Frampton places him in the School of Paris, working primarily in the interwar years. In a further subdivision he argues that this rough grouping can be split "between 'heavy' and 'light' tectonic expression, between concrete frame on the one hand and light, predominantly metal construction on the other." Nelson, according to Frampton, was part of the "lightweight" wing of the school, which also includes Pierre Chareau, Nitzchke, Vladimir Bodiansky, and the team of Euégne Baudoin, Marcel Lods, and Jean Prouvé. This he opposes to Perret, Le Corbusier, Henri Sauvage, and Mallet-Stevens in the "heavy" camp. The division is helpful but also focuses too much on the material aspects of these wide ranging designers. Kenneth Frampton, "Nelson and the School of Paris," in *The Filter of Reason: Work of Paul Nelson*, ed. Terence Riley and Joseph Abram (New York: Rizzoli, 1990), 11.



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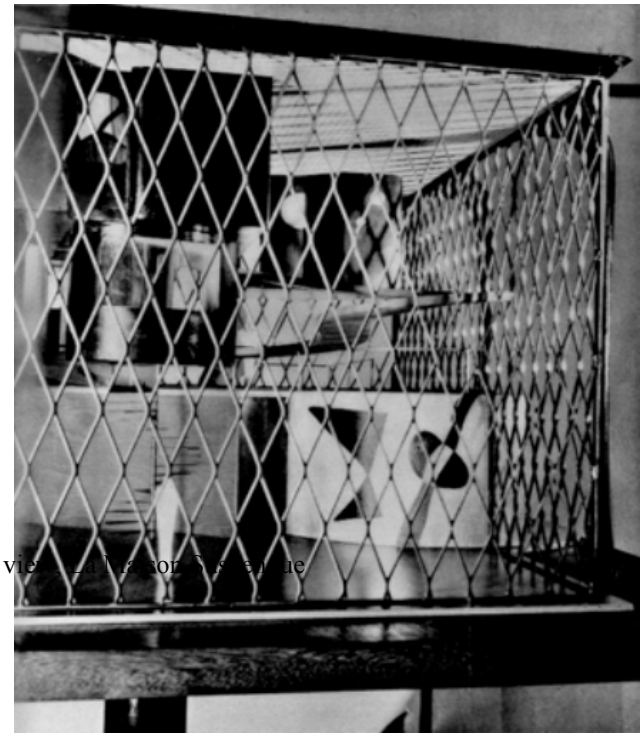


ig. 4.20 Detail vie

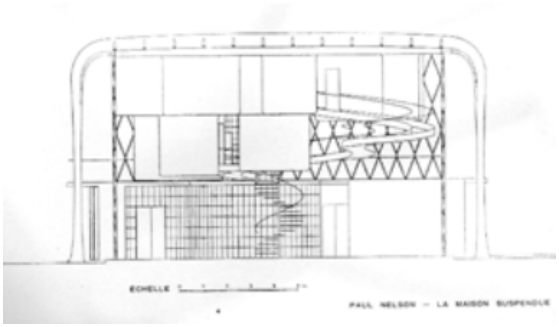
that built relations for human understanding through a literary poetic. Nelson's machine sought to conjoin the "material needs and spiritual, practical and speculative, mechanic and the poetic" in a "technological architecture." This work was created in a modern way. Physically, it consisted of two main elements: a lower plinth-like level that holds the service spaces and an upper larger cage that recalls the main space in Maison de Verre (see fig. 4.18).[132] The diamond pattern of its exterior structure was designed to enclose a multi-level layout and two circulation routes: one direct and the other meandering. Arguably, the most important spaces hang from unseen supports above, giving the impression that these forms levitate or are suspended (see fig. 4.19). The dwelling spaces are situated in the upper portion of the house, nearest the

[132] "Within this context Nelson's Maison Suspendue has to be seen as a translation of the Maison de Verre into a middle-class, mass producible form. The technosurrealism that Nelson had sensed as an underlying presence in the Maison de Verre is combined in the Suspended House with higher standards of ergonomic efficiency … Space of entirely different order and scale surrounds the suspended encapsulated forms. Here the surreal is deliberately evoked in the complex 'arabesque' of the suspended helicoidal staircase and the cagelike main living volume. This space recalls in an uncanny way Alberto Giacometti's Palace at 4 a.m. of 1933." Frampton, "Nelson and the School of Paris," 13.

roof, and are engaged by the iconic meandering ramp. The units were conceived as pre-fab units that could be plugged into place. Programmatically, they are for "recreation and study." To respond to new interests or circumstances, their uses could be changed (see figs. 4.20 and 4.21).

Fig. 4.21 Section drawing, La Maison Suspendue

The American Buckminster Fuller called such work "4D architecture" because it was a manifestation of the machine. Fuller saw himself as a wellspring for this idea. In a 1928 letter he noted that Nelson "was introduced [by him] to the 4D idea" prior to leaving on one of his many trips to France. Fuller claimed that his 4D idea gave Nelson "the chart for the space between aesthetic modern design and economic necessity. It was for this very link that Nelson had been waiting."[133] To understand what Nelson was actually doing, it is important to look past Fuller's narrow, self-serving interest in promoting a 4D architecture.



It was not by chance that Nelson described La Maison Suspendue variously as a nest, a basket, a journey, and a landscape.[134] These descriptions should not be set aside as inessential to the architecture of the project or its experience. In fact, he was constructing similitudes out of differences. These metaphors show that his architectural machine was more about polyvalence than about narrow concepts of form or function. His approach was both critical and imaginative.

[133] Buckminster Fuller, "on Paul Nelson," in *Your Private Sky: Discourse R. Buckminster Fuller*, ed. Joachim Krausse and Claude Lichtenstein (Zurich: Lars Müller Publishers, 2001), 80.
[134] Judith Applegate and Paul Nelson, "Paul Nelson: An Interview," *Perspecta* 13 (1971): 102.

The project's machine metaphor suggested a tension between potential and actual existence, and even hinted at an identity with the cosmos. Nelson's friend, the artist Joan Miró, noticed the landscape quality of the project and made an unusual request to paint on portions of it. He wanted to paint the ramp red like a flower, the underside of the floating volume blue like the sky, the ground green like the earth, and circular forms above "as an expression of the universe."[135] Nelson welcomed this collaboration with Miró and its resonance between elements of the house and the macro order of the universe. As an architectural machine, the house also amplified relations between human events such as dining, studying, and sleeping and natural events of the cosmos such as the rising and setting of the sun and the change of the seasons.

Fig. 4.22 Pieter Bruegel the Elder, *Massacre of the Innocents* (1565–67)

Nelson believed that the symbolic and theatrical properties of his machine should take precedence over the instrumental. Although calculative thought would regard these distant metaphors and analogies as illogical, they aligned with what Jarry described as "elliptical equation." Nelson's design cannot be reduced to a single point; instead it pulls one's thinking in various directions. Its "gains by the technological uses of the machine" are close to the intentions of Jarry's pataphysical machines. Both sought to enrich reality of the house and its inhabitants through suggestion instead of breaking it down through analysis.

[135] Ibid.

HERMENEUTICS

Metaphor enables one to "decipher the world."[136] According to Ernesto Grassi, it is "the original form of the interpretative act itself."[137] In Nelson's house, metaphor operates the machine, enabling its architecture to establish poetic alliances. Metaphor and poetic speech are bound up with hermeneutics, which is an important part of Jarry's creative practice. For his approach to hermeneutics we need to look at his attitude towards history, described in other literary works. He explains that certain characters' "muscles are of stone, yet they never become petrified since for century after century they have continued to live in stone dwellings in the same place like gigantic trees."[138] Using another architectural analogy, he indicates that the intentions of a work are maintained while they await some future exercise of their might. How then does one bring these works to life?

Jarry considered whether "historical reconstruction" is appropriate, discussing this in his lecture "Le Temps dans l'art": "the artist strives to fix his work outside time, to make it 'eternal', and so immortal; that, I believe, is his ambition, whether he be a painter, a writer, a sculptor, an *architect* or a musician."[139] One can imagine that any modern artist "can reconstruct the same tragic horror by imagining a *Massacre of the Innocents* [the sixteenth-century painting by Pieter Bruegel the Elder] in our own day and in whatever place he might choose – in front of the Paris Opera House, for example" (see fig. 4.22).[140] The reconstruction of a displaced transcription is inadequate; one cannot move an event and simply redecorate. "The desire to reconstruct a period merely delays the arrival of the moment when works of art are set free from the shackles of time."[141] Another objection to historical reconstruction is that "art requires documentation for the reproduction of a *décor*, the elements of which no longer exist."[142] In other words, the situation out of which a work grew may have changed drastically. He says bluntly, "All

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[136] Grassi, *Rhetoric*, 9.
[137] Ibid., 7.
[138] Jarry, *Oeuvres complètes,* 2:637.
[139] The medium of a writer files past successively, whereas sculpture or architecture occurs with simultaneity. Jarry, *Oeuvres complètes*, 2:637. Emphasis mine.
[140] Ibid., 2:639.
[141] Ibid., 2:641.
[142] Ibid., 2:640.

things 'historical' are a dull annoyance, i.e., pointless." However, this statement is belied by his own work and broad knowledge of ancient works. Thus, I take "historical" to mean historicist tendencies that were common during his time.

Jarry believed that all artists search for truth, but that truth exists in several versions. An artist can either "discover" truth or "create" truth; these are essentially the same.[143] In challenging the simplified break between modernity and the past, one can also recover and reinterpret antiquity.[144] However, he says, it is ridiculous to "express new sentiments in an 'embalmed' form."[145] One cannot simply reproduce an older work. In spite of historical distance, he argues humorously that we may still have access to these "forgotten" elements:

> In today's civilization, a citizen of Paris does not expect to relive the emotions of his caveman ancestor battling with the great bear, the mammoth or the woolly rhinoceros of the stone age. And yet who has not experienced those self-same emotions when, for instance, lying in wait next to a purpose-built hut … for the passage of an omnibus? And what else do we feel but brute despair when the mahout drives his omnibus past without stopping?[146]

Of course, these remarks seem to be more about the brutish concerns of the Parisian bourgeois. He shows an interest in reinterpretation in various places; for instance, "Fortune on her wheel, what was she doing if not riding a unicycle?"[147]

An engagement with history was ever-present in Jarry's work. Most of the time he criticized objective history; nevertheless, his work sometimes fell uncritically into historicism. His polemic sometimes was contradicted by his use of Gothic typeface and by graphics that mimicked too closely medieval or Renaissance images. By failing to translate them substantively, they remained stylistic trappings.

There are many places in Jarry's work where the value of history is more than a surface effect; here, one can speak of it as hermeneutic. Christian Bök warns of narrowing "the science of 'pataphysics to another species of hermeneutics: just a way to

[143] Ibid., 1:410.
[144] Ibid.
[145] Ibid., 1:41.
[146] Ibid., 2:640–1.
[147] Ibid., 2:640.

read, not a way to live."[148] But Bök forgets that a person is an intentional being and dwells much of the time in a pre-reflexive world. This means that hermeneutics is not just a way of reading but is what we are. Jarry uses hermeneutics at a more conscious, deliberate level. Here it can be defined as the "art of deciphering indirect meanings," a practice that develops out of biblical exegesis. Ultimately, it relies on the symbolizing power of the imagination to transform conventional meanings into new ones. Jarry proposes, "Something new will always come to light if texts are dissected ad infinitum."[149]

The strongest and most original example from Jarry's body of work is his short story, "La Passion considérée comme course de côté."[150] In this work he reinterprets the Christian Passion – the Stations of the Cross, the ascent of Mount Golgotha, and the suffering and death of Christ – as a competitive bike race. The machine used by Christ consists of two tubes connected at right angles. The cross once again is a machine, as with Ignatius of Antioch. The final "accident" that is "familiar to us all" happened when he was in a "dead heat" with the two thieves. Jarry says, "We know that he continued the race in the air – but that is another story." Here translation brings the biblical event to life, makes it secular, and situates it outside of historical time.

HUMOUR

> More than any other time in history, mankind faces a crossroads. One path leads to despair and utter hopelessness. The other, to total extinction. Let us pray we have the wisdom to choose correctly.[151]
>
> It is not that we are without utopia, but that we are without paths to utopia. And without a path towards it, without concrete and practical mediation in our field of experience, utopia becomes a sickness.[152]

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[148] Christian Bök, *'Pataphysics: The Poetics of an Imaginary Science* (Evanston, IL: Northwestern University Press, 2002), 10.
[149] Jarry, *Oeuvres complètes*, 1:171.
[150] Ibid., 2:420–2.
[151] Woody Allen, "My Speech to the Graduates," *The New York Times* (10 Aug. 1979): A25.
[152] Paul Ricoeur, "The Creativity of Language," in *Dialogues with Contemporary Continental Thinkers: The Phenomenological Heritage*, ed. Richard Kearney (Manchester: Manchester University Press, 1984), 31.

With Jarry's description of the metaphoric "flight" of Christ, together with the modern philosophical "flight" of the gods, a vacancy has been left in the human realm on earth. At one time we might have responded by gathering around a divinity, but as Paul Ricoeur reminds us, "We don't seem to believe in these intermediaries any more."[153] In their place we posit our own principles. Groucho Marx famously quipped, "Those are my principles, and if you don't like them … well, I have others."[154] Consequently, any values we posit can be withdrawn just as easily. This may be liberating but it is also troubling. Nietzsche asked, "What is now to become of the fifth act? From where shall I take the tragic solution? Should I start considering a comic solution?"[155]

Today, even the term "crisis" is in crisis, so a little humour might be welcome –particularly for its critical capacity. As Jarry noted, "satire is modern." Adopting a humorous attitude risks trivializing the situation, conjuring the image of a fiddling Nero watching Rome burn. Pataphysics attempts to occupy an intermediary position. Carrouges claims sardonically, "Among pataphysicists there is as much humour as there is love where machines are concerned."[156] However, he forgets that in Jarry's work the machine in fact does fall in love!

Fig. 4.23, Grande Chasublerie, rue Cassette, Paris

We can also consider Jarry's idiosyncratic domestic setting (see fig. 4.23). When Guillaume Apollinaire arrived at Jarry's building and asked the concierge where to find Jarry, he replied, "On the third floor and a half." Apollinaire reported, "I climbed up to see Alfred Jarry, who did in fact live on the third floor and a half. The landlord, finding that the ceilings of his property were too tall, had subdivided the floors horizontally. The building [on rue Cassette in Paris] … was fifteen floors, which, by definition, is no taller than the buildings to either side, it is only the reduction of a skyscraper."[157] Jarry's small

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[153] Ibid., 31.
[154] All three Marx Brothers were "Transcendent Satraps" in the *Collège de 'Pataphysique*.
[155] Nietzsche, *Gay Science*, 132.
[156] Michel Carrouges, "Directions for Use," in *Le macchine celibi / The Bachelor Machines*, ed. Harald Szeemann (New York: Rizzoli, 1975), 45.
[157] Guillaume Apollinaire, "Feu Alfred Jarry," *Les Marges* 23 (15 Jan. 1922): 21–7. Apollinaire got the floor wrong. It was actually the 2 1/2 floor.

stature enabled him to stand comfortably, with the top of his head right at ceiling level. Anyone taller, including Apollinaire, had to hunch over. The rest of Apollinaire's account describes Jarry's intermittent poverty:

> The bed was only the minimal reduction of a bed, i.e., a mattress – low beds are all the rage, Jarry explained. His writing-desk was barely a desk, since Jarry wrote lying down on his stomach on the floor. The furnishings were severely reduced, as they consisted of nothing save for the bed. A reduction of a picture was hanging on the wall. It was a portrait of Jarry, most of which he had burnt away, leaving only the head. … His library was just the reduction of a library.[158]

The primary focus of his meagre domestic setting was above the hearth:

> On the mantelpiece stood a gigantic stone phallus, a piece of Japanese work. … He always kept a purple velvet hood over this ornament, ever since the day when the exotic monolith had scared the wits out of a lady writer, breathless after climbing up to the third and a half, and completely at a loss in this unfurnished Grand Chamblerie, had inquired: "Is that cast from life?"
>
> "Not at all," replied Jarry, "it's a reduction."[159]

Humour is not an easy subject to study because it resists rationalization. In other words, jokes do not work when they are analyzed. The humour in Apollinaire's story about Jarry's lodgings relies on the initial repetition of "reduction" and its return at the end of the story as an off-colour descriptor. Analyzing the story does not make it more humorous; in fact, it becomes less so. According to Gadamer, "There will always be areas that fundamentally cannot be approached through objectivization and treated as methodical objects. Many of the things in life are of this kind, and a few gain their unique significance from precisely this fact."[160] This property is shared by humour and architecture. As in architecture, the full meaning of humour emerges in its unfolding.

Many people take architecture too seriously. During their early years, Ozenfant and Le Corbusier stated, "Architecture is not dead … to a reassuring extent, engineers and builders have renewed its *seriousness* of purpose."[161] Years later, Reyner Banham perfunctorily dismissed the mechanistic artwork of Marcel Duchamp and Fernand Léger:

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[158] Ibid.
[159] Apollinaire also got the name wrong. It was *Grande Chasublerie*. Ibid.
[160] Gadamer, "Praise of Theory," 29.
[161] Amédée Ozenfant and Charles-Edouard Jeanneret, "The Modern Spirit," reproduced in Carol S. Eliel, *L'Esprit nouveau: Purism in Paris, 1918–1925* (New York: Harry N. Abrams, 2001), 143. Emphasis mine.

"It would clearly be possible [for architecture] to rephrase this interconnection of Abstract art, machine design, and absolute beauty in an equally elevated, but *more serious* way."[162] One can almost hear those artists laughing. Oscar Wilde noted, "It is a curious fact that people are never so trivial as when they take themselves very seriously."[163] Those who expected the machine in the arts to be entirely serious failed to recognize the critical power of humour. According to Bergson, laughter of this sort has "an unavowed intention to humiliate, and consequently to correct our neighbour."[164] It brings the exceptional back into the normative fold for the sake of the community.

Fig. 4.24 Joy of Père Ubu

Humour can play a meaningful role in the built environment. After visiting E.1027, Le Corbusier sent a postcard to Eileen Gray in April 1938, saying, "I am so happy to tell you how much those few days spent in your house have made me appreciate the *exceptional* spirit which dictates all the organization inside and outside. An *exceptional* spirit which has given the modern furniture and installations such a dignified, charming, and *witty* shape."[165] When Le Corbusier wrote this letter, his sensibilities had started to shift from his earlier Purist criticism of Jarry's work.

Using humour critically does not necessarily seek the universal assent that Bergson seems to suggest. According to Philippe Soupault, this applies to Jarry's humour:

> [His humour] is above all cruelty, that is lucidity and sincerity. To be cruel, for Jarry, is to reject sentimentality, to oppose childish sentimentality with a clear

[162] Reyner Banham, *Theory and Design in the First Machine Age* (Cambridge, MA: MIT Press, 1980), 205.
[163] Oscar Wilde, *Complete Writings of Oscar Wilde: Reviews* (New York, Philadelphia, and Chicago: The Nottingham Society, 1909), 816.
[164] Henri Bergson, *Laughter: An essay on the meaning of the comic*, trans. Cloudesley Brereton and Fred Rothwell (New York: Macmillian, 1917), 136.
[165] See postcard from Le Corbusier to Eileen Gray, 28/4/38, reproduced in Adam, *Eileen Gray*, 310. Emphasis mine.

> attitude, without equivocation, it is also to attack prejudices. It is not a question of making something as much as to denounce.[166]

Most of Soupault's statement seems accurate, but the last sentence is hard to accept because it is contradicted by Jarry's own words. In *La chandelle verte* he says clearly, "laughter is not, we believe, only that which has been defined by our excellent professor of philosophy at the lycée Henri IV: the feeling of surprise. We suggest he should add: the impression of revealed truth – which surprises, like all unexpected discoveries."[167] Jarry's subtle criticism of Bergson suggests that the impression of revealed truth may turn out to be critical, may challenge conventional morals, and may even be cruel, but it is hard to argue that it is not productive.[168] Jarry says that "laughter is born out of the discovery of the contradictory."[169] For Jarry, both creating and discovering are generative; both of them are also rhetorical ways to question a subject.

Laughing-as-contradiction fits Bergson's argument that humour occurs when one encounters mechanical rigidity where one expects human flexibility. "The attitudes, gestures and movements of the human body are laughable in exact proportion as that body reminds us of a mere machine."[170] This contradiction is evident when a man acts like a "jointed puppet."[171] Witnessing humans acting like machines acting like humans, as

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[166] Philippe Soupault, "Confrontations: Alfred Jarry," *Cahiers de la Compagnie Madeleine Renaud-Jean-Louis Barrault* 22–23 (May 1958): 178.
[167] Alfred Jarry, *La chandelle verte* (Paris: Livre de Poche, 1969), 301.
[168] "One letter sufficed to give to the most vulgar of French jaculations a joculatory value, verging on the sublime, of the place it occupies in the epic of Ubu: that of the *Word* from before the beginning. … the fool is the one, oh Shakespeare, in life as in literature, for whom the destiny was reserved of keeping available through the centuries the place of truth." Jacques Lacan, *Ecrits* (Paris: Seuil, 1966), 660–1.
[169] Jarry, *Oeuvres complètes*, 2:442–3. Jarry may have been aware of Charles Baudelaire's theory of laughter. Baudelaire argued that the "orthodox mind" links laughter to the biblical "Fall" (i.e., a physical and moral debasement); however, he did not completely discredit this position, as he argued for laughter as primarily satanic, which is "profoundly human." Laughter at a fall (mental or physical) shows a conscious pride (i.e., one is proud that it was not oneself that had "fallen"). In other words, it is a consequence of man's idea of his superiority over another man. This is marked by both infinite grandeur (linked to "the absolute Being") and infinite misery (linked to beasts). The collision of this contradiction causes laughter. Charles Baudelaire, "On the Essence of Laughter," in *The Painter of Modern Life and Other Essays* (New York: Phaidon Press, 2005).
[170] Bergson, *Laughter*, 29.
[171] Ibid., 30.

in *Ubu Roi*, accorded with Jarry's definition of humour.[172] He also used it for laughs by associating Ubu's game of "cup and ball" with masturbation (see fig. 4.24). His intention was not to humanize the machine but to encourage the audience to laugh at the contradiction of its "ignoble double" on stage, recognizing the truth of oneself as another.[173]

The reverse is also an option for humour: when one expects seriousness and rigidity but encounters flexibility and playfulness.[174] This also involves a departure from a familiar local situation. As Bergson points out, distance is important for the comic as part of a strategy involving "averages." "And, like all averages, this one is obtained by bringing together scattered data, by comparing analogous cases and extracting their essences; in short by a process of abstraction and generalization similar to that which the physicist brings to bear upon facts with the object of grouping them under laws."[175] Humour can partake in the scientific. According to Bergson, "A humourist is a moralist disguised as a scientist."[176] Jarry also explored another option: a scientist as a humourist. A humourist delights in "concrete terms, technical details, [and] definite facts."[177] For instance, Jarry describes Docteur Faustroll as "a man of medium height, or, to be perfectly accurate, of ($8 \times 10^{10} + 10^9 + 4 \times 10^8 + 5 \times 10^6$) atomic diameters." In other words, both representatives of pataphysics, Ubu and Faustroll, are humorous and convey a positive critical value.

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[172] The connection between Bergson and Jarry is complicated. Henri Béhar says, "Obviously, … Jarry did not read the essay *Laughter*, especially its defining terms of the mechanical encrusted on the living." Nevertheless, Jarry did attend Bergson's lectures at Lycée Henri-IV. Béhar, *Les Cultures de Jarry*, 199.
[173] Martin Esslin has argued that Jarry's theatre work is a precursor to the Theater of the Absurd. Martin Esslin, *The Theatre of the Absurd* (New York: Penguin Books, 1983).
[174] The Monty Python sketch "Ministry of Silly Walks" is a perfect example.
[175] Bergson, *Laughter*, 169.
[176] Ibid., 128.
[177] Ibid.

. 4.25 1920s Michelin advertisement

Fig. 4.26 Eileen Gray, Bibendum chair

The same "scientific" attention to detail is evident in Gray's E.1027 and its furniture. The humour here is salient because it relies on exaggerations of similitude, as discussed above. "Taking note of similarities" is paramount to creating a comic type, according to Bergson. "Every comic character is a type. Inversely, every resemblance to a type has something comic in it."[178] Gray's furniture fits these criteria. Her "Bibendum" chair has stacked cylindrical padding that resembles the rotund tubes of Bibendum, the Michelin man (see figs. 4.25 and 4.26) – whose contours coincidentally resemble the form of Ubu. Her "non-conformist" chair depended on a different, more esoteric resemblance: to modernist "machine" furniture with avant-garde pretensions. The asymmetrical form of this tubular steel chair, coupled with its ironic name, promoted modernity in a domestic setting (see fig. 4.27). As "non-conformist" furniture, it reflected humorously on the typicality of a chair, but recognized that its modern materials and iconography do not necessarily change the fundamental act of sitting.

Fig. 4.27 Eileen Gray, Non-conformist chair

Gray's work attended to more than just surfaces, forms, and functional requirements. Her "Bibendum" and "non-conformist" chairs showed that naming was

[178] Ibid., 148.

also important. Language was also incorporated into the iconography and operations of the house in other ways. On the entrance porch on the north side of E.1027 there is a red wall on which Gray stencilled phrases to instruct the visitor: "Enter Slowly" and "No Laughing." These phrases are witty variations on the modernist convention of using standardized stencils on process and construction drawings. Elsewhere in the house there are stencilled words with a similar tone, including "little things," "dresses," and "pillows," as well as "teeth" in white letters on a black wall next to the bathroom sink. These words add a witty linguistic dimension to the spatial and material characteristics of the house.

This sensibility goes further. Gray stated that the house "has concentrated in a very small space all that might be useful for comfort and for aiding in *joie de vivre*. In no part has one sought a line or a form for its own sake; every-where one has thought of man [*sic*], of his sensibilities and needs."[179] What Gray meant by "sensibilities" and "needs" must not be regarded merely as conventional expressions of calculative thought. A reductive reading would not align with the qualities of her furniture and interiors. "She always added a touch of humor or irony to her design."[180] Her work undoubtedly has a bit of "mania" about it. According to one commentator, in some of Gray's pieces the "bending and folding of elements created a mechanical ballet."[181] Their exuberant detailing and playful movement sought to reveal more than was immediately present. As Joan Ockman notes, Gray pushed detailing until her "obsession with functional accommodation and ingenious mechanism was carried to virtual self-parody."[182] The sleeping alcove, with its various chambers and its adjustable bedside table and light, is a perfect example.

Her "parody," directed at the encroachment of the machine into human life, was reminiscent of Jarry's position. In fact, unlike the young Ozenfant and Le Corbusier, Gray was one of Jarry's early architectural supporters. Peter Adam later reported that Gray had found Jarry's work highly compelling:

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[179] Gray, quoted in Constant, *Eileen Gray*, 118.
[180] Adam, *Eileen Gray*, 210.
[181] Ibid., 205–6.
[182] Joan Ockman, "Review: Two Women in Architecture," *Journal of Architectural Education* 46, no. 1 (Sept. 1992): 53.

> Eileen remembers going to see the play Ubu Roi, by Alfred Jarry, which A.-M. Lugné-Poe had first put on in 1896 in the Théâtre de l'Oeuvre. It shocked so many people because of its language that it split Paris into Ubuist and anti-Ubuists. Eileen became an Ubuist but never dared to tell her family of cousins who had also come to Paris that she had actually seen the play.[183]

Interestingly, Gray's stance shows that not everyone in early modernism after the war was eager to sanitize the arts by ridding them of "jarryisme." Her work challenged the functional and aesthetic positions of the Purists.

Gray's architectural machines, like Jarry's pataphysical machines, rejected calculative attitudes that dismissed irony and humour as having no claim to truth. Instead, her "scientific imagination" worked towards "a fuller view of reality."[184] As Bergson explains, "There is a logic of the imagination which is not the logic of reason, one which at times is even opposed to the latter."[185] This intertwining of the "as is" and the "as if" may give rise to a humorous event of architecture. Gray worked *through* the machine to arrive not at a technological *machine for living in*, but a monstrous conjunction that would be exceptional, open, and participatory: *a pataphysical machine for living in*.

[183] Adam, *Eileen Gray*, 41. My emphasis.
[184] Bergson, *Laughter*, 167.
[185] Ibid., 41.

CHAPTER 5:
UBU-ESQUE NATURE OF PATAPHYSICAL MACHINES FOR LIVING IN

> [M]an needs some barbarian element, just as the earth needs manure; for production requires a process of mental fermentation, resulting from contrasts, from dissimilarities.[1]

While Adolf Loos may have considered him a fraud or a degenerate, the French writer and poet René Daumal challenged the modernist diatribe against decoration. He used Jarry's pataphysics for leverage. Daumal spent much of his life working against Western dualism. He found a sympathetic position in Jarry's work and pursued theoretical implications of pataphysics in various areas, including its implications for design. Daumal referenced the "five-hole button and countless inventions of that ilk" as designs that are useful but also display decorative excess. He contended that pataphysics could be a subversive force in the design world as a means of challenging the efficient industrial production that was being promoted by Loos, Le Corbusier, and others. He declared that pataphysical additions offer "purely human whimsy among manufactured objects."[2]

> Since Pataphysics as knowledge is the reverse, the exact mirror opposite, of physics, it can have a powerful effect against attempts to streamline work when applied to the flow of production. What about the influence governing the choice of such and such an embellishment which no one will even notice on a railroad car baggage rack, or of any other gratuitous detail of some everyday nondescript object?[3]

But are we to believe Daumal that adding "pataphysical detailing" to a machine-manufactured object is a significant enough challenge? We can sympathize with his criticism of streamlined production and its underlying instrumentality, but his position is problematic. Does it not still consider embellishment as an optional appendage with no social or cultural relevance, nothing more than "art for art's sake," akin to a decorated shed in architecture? Is this simply the inverse of Reyner Banham's technophilia that tried to shed its cultural baggage? "We have to choose which camp to be in," says Jean-

[1] Eugéne-Emmanuel Viollet-le-Duc, *Entretiens sur l'architecture* (Paris: Morel, 1863), 1:117.
[2] René Daumal, *You've Always Been Wrong*, trans. Thomas Vosteen (Lincoln: University of Nebraska Press, 1995), 32.
[3] Ibid., 32–3.

François Lyotard, positing a similarly forking path, "as did … Jarry …: the Sophists against the Philosophers, … the Bachelor machines against industrial mechanics."[4] Like Banham, Lyotard was equally categorical. Yet, this does not hold true for architectural machines, which always have something technological about them. Could there be potential in Daumal's pataphysical details? Might they result in a practice that produces exceptional works that go unnoticed by most, but reveal certain truths to others? Although Daumal did not leave us with enough evidence to decide, his ideas do raise questions about the nature of design for Jarry.

To pursue this, we can shift to the theatre, where Jarry made similar choices. As Michel Carrouges has pointed out, pataphysical machines are inextricably linked to the theatre. By shifting to this realm, we can consider Jarry's ideas for staging *Ubu Roi*.[5] We are not abandoning the literature that was a constant reference for Jarry, but pursuing aspects of it that normally are not afforded to the written word. As I have argued in a previous chapter, we must look beyond the statements that the staging of *Ubu Roi* was intentionally vulgar for the sake of shock, a tactic generally associated with the avant-garde. This will help us see how he framed human action, a practice that the dramaturge shares with the architect.

Ubu Roi and his early works were situated in a Symbolist context, even though he challenged it at various times.[6] *Ubu Roi* was developed for the Parisian "théâtre a côté" culture, whose point, Jarry argued, "is not in being but in becoming."[7] This was a new theatre that he believed could join other arts in a search for "truth." I would argue that his primary aim was to develop a role for the participant. In a few short texts written prior to the staging of *Ubu Roi*, Jarry presented propositions for an abstract theatre in which

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[4] Jean-François Lyotard, *Duchamp's TRANS/formers* (Venice: Lapis Press, 1990), 49.
[5] Michel Carrouges, "Directions For Use," in *Le macchine celibi / The Bachelor Machines*, ed. Harald Szeemann (New York: Rizzoli, 1975), 21.
[6] Ubu was seen as a "Symbolist farce" by Arthur Symons, a contemporary detractor who attended the play. Arthur Symons, "A Symbolist Farce," *Saturday Review of Politics, Literature, Science and Art* (London) 82, no. 2123 (19 Dec. 1896): 645–6. Henri Dorra, ed. *Symbolist Art Theories* (Berkeley: University of California Press, 1994). Remy de Gourmont, *The Book of Masks*, trans. Jack Lewis (Boston: John W. Luce, 1921). Marcel Raymond, *De Baudelaire au surrealisme* (Paris: Correa, 1933). Anna Balakian, *Literary Origins of Surrealism: A New Mysticism in French Poetry* (London: University of London Press, 1967).
[7] Jarry, *Oeuvres complètes*, ed. Michel Arrivé, Henri Bordillon, Patrick Besnier and Bernard Le Doze (Paris: Gallimard, Bibliothèque de la Pléiade, 1972–88), 1:414.

people would participate more fully. Rather than being a passive spectator, as in Wagner's theatre, they would experience the "active pleasure of creating," which gives "a little measure" and "anticipation."[8] He also wanted to eliminate conventional theatrical elements that have "no purpose" and tend to "clutter" its space. Before discussing this issue, it will be useful to consider his engagement with Symbolism.

SYMBOLIST CONTEXT OF *UBU ROI*

Symbolism is generally characterized as an "expression of individualism in art."[9] Artists imagined withdrawing to an otherworldly realm that was typically anti-bourgeois, mystical, and sometimes alchemical. The elliptical language they used to describe the flow of moments in their personal lives led them to be attacked as "decadents." Max Nordau stated this clearly:

> The Symbolists are a remarkable example of that group-forming tendency which we have learnt to know as a peculiarity of 'degenerates.' They had in common also the signs of degeneracy and imbecility: overweening vanity and self-conceit, strong emotionalism, confused disconnected thoughts, … and complete incapacity for serious sustained work.[10]

Their ideas and ideals were considered escapist, even nihilistic.[11] The 1890 drama *Axël* by Auguste Villiers de l'Isle-Adam was favoured by the group. In it, two aristocrats fall for each other and dream of an extraordinary future. They conclude, however, that nothing in this banal reality could ever match their fantasies, so they both commit suicide. Certainly, this was not an ending where the protagonists walk off happily into the sunset.

Still, the negativity that was directed at the Symbolists, based on works such as *Axël*, should be reconsidered, to a degree. If they believed that all was lost, why produce works at all? Why write *Axël* when one could easily become Axël? In other words, in the deepest motivations of making there is something inherently positive. The accusation of nihilism needs to be tempered, recognizing they were also trying to come to terms with

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[8] Ibid., 1:406.
[9] Gourmont, *Book of Masks*, 15.
[10] Max Nordau, *Degeneration* (New York: G. Moose, 1968), 101. Originally published 1892.
[11] "The poetry of Rimbaud, Lautréamont, Mallarmé was a deliberate step towards creation through a conscious process of destruction, toward nihilism through extreme individualism." Balakian, *Literary Origins of Surrealism*, 98.

the conditions around them by asking questions about the destructive forces of modern industry and the metropolis. "Although predictably conflicted, [they offered] a measured, intelligent, and quite reasoned reaction" to these increasingly mechanized conditions.[12] As a form of resistance to industrial society, the Symbolists tended to focus on the individual, rather than the "crowd" or the social machine. This was expressed clearly in the diary of the Swiss writer J. Frédéric Amiel:

> Materialism is the auxiliary doctrine of every tyranny, whether of the one or of the masses. To crush what is spiritual, moral, human – so to speak – in man, by specializing him; to form mere wheels of the great social machine, instead of perfect individuals; to make society and not conscience the centre of life, to enslave the soul to things, to de-personalize man – this is the dominant drift of our epoch.[13]

To resist or challenge this "drift," they focused their efforts on producing imaginative work. Drawing from Charles Baudelaire, their theories relied on enigmatic "correspondences" between the material world and the spiritual world to reveal hidden layers of significance. Their work emphasized recollection, rumination, and critique. It also became a way of knowing and participating.

FUTILITY OF THE THEATRICAL

Jarry's essay "De l'inutilité du théâtre au théâtre" presented his ideas for the stage and described how they fit under the Symbolist umbrella. It was primarily about the production of *Ubu Roi*, although some of its ideas were speculative rather than a practical plan of action. What is immediately obvious from the text is that he was bent on challenging the "theatrical" in the theatre. Taking a stand against the theatrical, however, is a vague proposition. "[A]mbiguity can be seen in the adjective *theatrical*; sometimes it means total illusion, other times that the acting is too artificial and reminds us constantly

[12] Sharon L. Hirsh, *Symbolism and Modern Urban Society* (Cambridge: Cambridge University Press, 2004), xiii.
[13] Henri-Frédéric Amiel, *Amiel's Journal*, trans. Mrs. Humphrey Ward (New York: Macmillan, 1923).

that we are in the theatre."[14] With Jarry, like the Symbolists, it was the pretensions of illusion that he questioned and sought to undo.

Both Jarry and the Symbolists opposed two forms of theatre that were prevalent at the time: Realism and Naturalism. Realism was thought to be lifeless, contrived, and a sterile form of amusement by both the Naturalists and Symbolists because it was intent on distracting spectators with entertainment. Three of the principal directors of Realist theatre were Emile Augier, Alexandre Dumas (son of Dumas père, author of *The Three Musketeers*), and Victorien Sardou, who produced box-office hits such as *Parisian Life* (1866) and *Beautiful Helen* (1864). Realist theatre presumed that man is primarily good and that "the spectator can always blame his own misdeeds on the evils of society."[15] These "well-made" plays were seen by their opponents as melodramatic, sentimental, and conventional. The Symbolists argued that Realism made a representation of a representation of an Idea.[16] In other words, Realist techniques obscured the essence of things by slavishly making works that were twice removed from truth.

Naturalism (expounded by Emile Zola) sought the most precise "tranche de vie."[17] To present a scene in a butcher's shop, a production might use real sides of beef.[18] This led some to quip that it was a "tranche de vie saignante." Naturalist theatre showed horrors of existence in gory and nearly pornographic detail. Its actions and speech were drawn from observations of real life, following Antoine de Rivarol's declaration that "what is not clear is not French." In other words, they used increasing exactitude to eliminate the mediating distance between representation and subject. This kind of practice is fundamentally technological because it tries to control both the object's image and its reception.

The Symbolists doubted that these two other forms of theatre, with their different types of social mimicry, could bring about anything of significance. To them, a theatrical work instead should be a means to *reveal* truth. The Symbolists tried to *embody* Ideas

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[14] Patrice Pavis, *Dictionary of the Theatre: Terms, Concepts, and Analysis*, trans. Christian Shantz (Toronto and Buffalo, NY: University of Toronto Books, 1998), 396.
[15] Claude Schumacher, *Alfred Jarry and Guillaume Apollinaire* (London: Macmillan, 1984), 7.
[16] This was complicated by the fact that many artists willingly and easily moved between Symbolist and Realist forms of artistic practice.
[17] Emile Zola, *Le naturalisme au théatre: les théories et les exemples* (Paris: G. Charpentier, 1881).
[18] For instance, the famed *mise-en-scène* for Fernand Icres, *Les Bouchers* (1888).

Fig. 5.1 Émile Bernard, *Breton Women in the Meadow* (1888)

rather than *represent* them. Their effort to *recreate* instead of simply reproducing appearances is evident in the group's paintings at the time (see fig. 5.1). The primary thrust of their work was towards Neo-Platonism (from Plotinus) because truth, they argued, lies behind appearance.[19] They were after something that might resonate fully with our imagination and dreams, the grace and anguish of embodiment (including sickness), and perhaps even our demise. This was not easy because representation always includes its reception, which is not under the author's control. Jarry was well aware of this issue and embraced it to a degree, but by no means was he a liberal democrat.

In his opposition to entertainment and the theatrical, and in his pursuit of the essential, Jarry focused on two aspects of theatre: actors and décor (a play's physical setting and background). Criticizing the theatre of his day, he declared, "Decor is

[19] Patricia Mathews, *Passionate Discontent: Creativity, Gender, and French Symbolist Art* (Chicago: University of Chicago Press, 1999).

hybrid."[20] It is "neither natural nor artificial," therefore it is "useless." Instead, he contrived something more abstract to make things appear in an indirect way.

He believed this could be achieved partly by situating the work in a time and place other than where the actors and audience are gathered. *Ubu Roi* was set in "Poland, that is to say Nowhere."[21] Another factor was the play's structure. Abandoning the classical premise that a drama has a clear beginning, middle, and end, *Ubu Roi* is episodic, similar to the books of François Rabelais, of which Jarry was fond.[22] However, being episodic was also a mechanized condition of modernity, in which the city and one's experience of it were broken down into small, experiential units and accentuated by perceptions from new forms of mass transit.[23] Although *Ubu Roi* is chronological, the length of time that elapses between its episodes is nearly impossible to judge. Time seems to collapse. To further escape the locality of the play, Jarry employed anachronisms. In his opening address to the audience, he declared, "a play can be set in Eternity by, say, letting people fire pistols in the year 1000."[24] Ubu's action is virtually site-less, letting the members of the audience situate it wherever they choose. Still, Jarry had to admit that "nowhere" is France because Ubu speaks French.

As a further challenge to conventions of décor, he proposed that the backdrop for a play should be either minimal and unpainted, the reverse side of a set, or abstractly (or poorly) painted. This was a conscious move away from the illusions of *trompe l'oeil*, the illusory perspectival space inherited from the Renaissance.

A similar intention was evident in his wood block prints. They emphasized the materiality of the carved block and the texture of the paper, rather than letting the process of communication remain invisible and seamless (see fig. 5.4). This was suggested also in Jarry's print "Véritable Portrait de M. Ubu," which shows a pronounced spiral on Ubu's

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[20] Jarry, *Oeuvres complètes*, 1:406.
[21] Poland did not exist at that time. It was partitioned around 1815 and controlled by Russia until it was reconstituted after WWI.
[22] The play developed as a collection of short episodes contrived by various students over an extended period of time, resulting in its fragmented nature. These stories were later refined, edited, and retold by Jarry in dramatic form without systematizing them into a cohesive narrative arc.
[23] Hugh Kenner, *The Mechanic Muse* (New York and Oxford: Oxford University Press, 1987), 11.
[24] Jarry, *Oeuvres complètes*, 1:400.

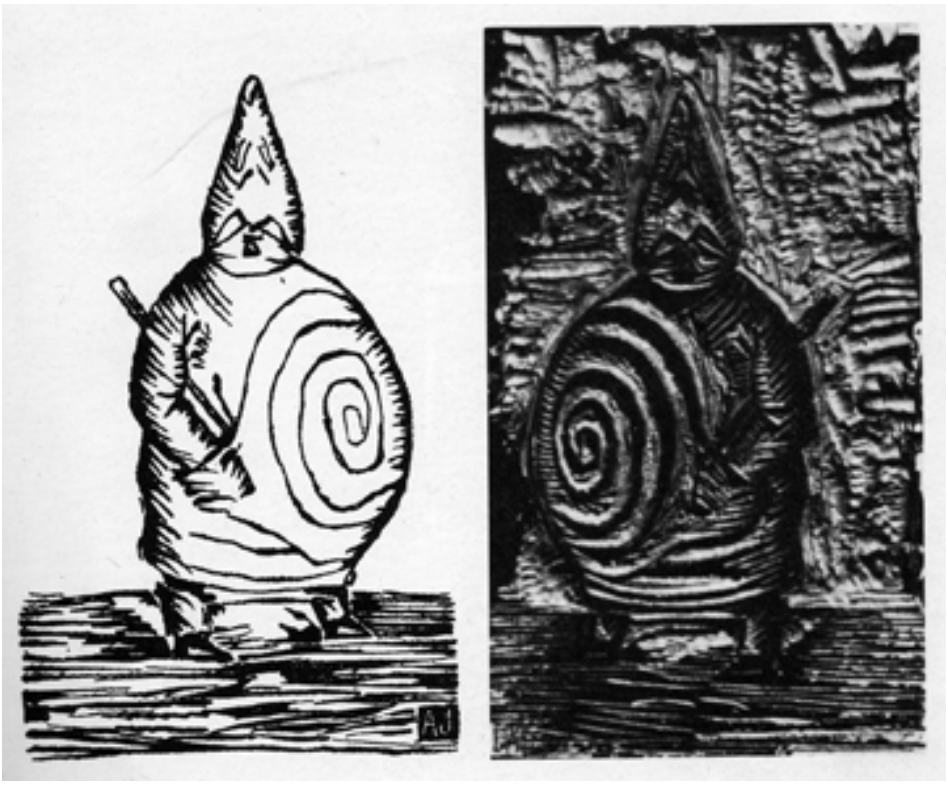

Fig. 5.2 Père Ubu print and wood block

gut. Jill Fell has pointed out that the spiral "recalls the cross-section of a tree trunk" (see fig. 5.2). The figure standing on the scored black base demonstrates his intention to "bring the wood texture into the image itself."[25]

In another woodcut, he repurposed an old piece of wood that appeared to have nail holes from some prior use (see fig. 5.3). This underlying materiality challenged the printed image of Sainte Gertrude, turning it into something more enigmatic and non-perspectival. The much older woodcut tradition had been revived recently by the Symbolists. Jarry's woodcuts – including the ones in his illustrated volumes – were all non-perspectival. Many had a Gothic sensibility, as he was fascinated with medieval work and its enigmatic layering of depth. His woodcuts are somewhat abstract, describing only the essential lineaments of a subject, rather than its full naturalistic detail.

In the backdrop for the performance of *Ubu Roi*, painted by Pierre Bonnard, Paul Sérusier, and Jarry, various scenes were conjoined into a single image. Arthur Symons describes it:

[25] Jill Fell, "Breton, Jarry and the Genealogy of Paranoia-Critique," in *André Breton: The Power of Language*, ed. Ramona Jotiade (Exeter: Elm Bank Publications, 2000), 116.

Fig. 5.3 Wood block print of Sainte Gertrude

Fig. 5.4 Wood block print

> by a child's conventions, indoors and out of doors, and even the torrid, temperate, and arctic zones at once. Opposite of you, at the back of the stage you saw apple-trees in bloom, under a blue sky, and against the sky a small closed window and a fireplace, containing an alchemist's crucible, through the very midst of which ... trooped in and out these clamorous and sanguinary persons of the drama. On the left was painted a bed, and at the foot of the bed a bare tree, and snow falling. On the right were palm-trees, about one of which coiled a boa-constrictor; a door opened against the sky, and beside the door a skeleton dangled from a gallows.[26]

The backdrop for *Ubu Roi* was a catch-all that depicted all of the scenes at once. With every scene already present on stage, the juxtaposition of actions and settings might confuse the audience; however, certain parts of the backdrop were activated by placards with simple written phrases that relied on the imagination to fill in the scene: for example, "The scene represents the Province of Livonia covered in snow." Some critics at the time thought this was a way of cutting costs, as small theatre productions were usually produced on a small budget. Symons believed that the placards were an Elizabethan convention, as Jarry hinted.[27] Regardless, this strategy was literary. It created continuity among disparate elements, places, and times by imaginatively pushing and

[26] Symons, "A Symbolist Farce," 465–6.
[27] Jarry, *Oeuvres complètes*, 1:411.

pulling parts of the backdrop to the foreground of attention. Words were substituted for elaborate décor and set production. The minimal background with its literary allusions suggested settings in a non-deterministic way. Although his staging was minimal and uncluttered, its qualities differed from the transparent spatiality that many modernist architects would come to embrace. Jarry was not interested in light-filled, hygienic spaces or clarity of vision as his Parisian apartments suggest.[28] Rather, he was after the suggestive possibilities of abstraction and allusion.

Jarry believed that décor should not be imposed on a knowledgeable public.[29] Although he wrote "public," he really meant the five hundred or so people who could understand it. These were people with "healthy minds" and "a bit of Shakespeare and Leonardo" in them.[30] The larger crowd, on the other hand, is "what scientists would call idiots" because they have only "immediate impressions." Jarry, like others, felt that the theatre audience wanted things to be clarified beforehand. This "safety valve" would avoid trouble; however, Jarry had little interest in clarity or mass appeal.

Jarry was not alone in his disdain for making things lucid and palatable. When asked about the difficult and obscure nature of Symbolist work (particularly his own writing), the poet Stéphane Mallarmé used an analogy to music. He pointed out that no one complains when they pick up an instrument and are unable to play it with virtuosity.[31] No one expects immediate success in music without education and practice, so why does this not extend to the other arts? Why is a process of initiation derided? As Jarry commented on *Ubu*'s reception, perhaps "they resent it because they grasped it only too well."

Jarry was aware of the dangers of "difficult" or "obscure" writing. "Confusion and danger" may result from things being taken out of context or when words are chosen solely for their musicality. Readers who are not prepared might be unable to go beyond the surface of a work. The same can occur in theatre. Those who exercise real thinking can become initiates. Jarry believed that these people have the right to see whatever they choose to imagine. Although he did not say so explicitly, he knew that the contingent

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[28] Alastair Brotchie, *Alfred Jarry: A Pataphysical Life* (Cambridge, MA: MIT Press, 2011), 44–5.
[29] Ibid., 1:406–7.
[30] Ibid., 1:406.
[31] Jules Huret, *Enquête sur l'évolution littéraire* (Paris: Bibliothèque-Charpentier, 1891), 60–1.

parts of the play – including the actors, the plot, the dialogue, and the décor – as well as the contemporary artistic discourse would provide helpful limits for a participant's imagination.

The representational aim of Jarry's theatre was to "suggest rather than to state."[32] He was following a well-known statement by Mallarmé:

> *To name* an object is to suppress three-quarters of the enjoyment of the poem, which derives from the pleasure of step-by-step discovery; to *suggest*, that is the dream. It is the perfect use of this mystery that constitutes the symbol: to evoke an object little by little, so as to bring to light a state of the soul or, inversely, to choose an object and bring out of it a state of the soul through a series of unravelling's.[33]

This is a technology not of precision but of suggestion.[34] According to Frascari, pataphysical technology "enriches the perception of reality by making room for the play between objects and the parts of construction, rather than limiting the design by defining tolerances among its parts."[35] As a form of technology, this theatre does not attempt to assess the truth of a proposition; instead, it sets up an event that permits unpredictable arrangements but also rigour and symbolic accuracy. In a similar way, architecture for Eileen Gray was profoundly symbolic.[36] It could also be described as a pataphysical technology, as it "suggests the essential more than representing it," as I will discuss shortly.[37]

Jarry's desire to avoid features with "no purpose" that "clutter" the space of the theatre was extended to include actors' bodies and their costumes. Like many others of his generation, he was fascinated with marionettes. They seem to have helped him, at a relatively young age, to reconsider certain theatrical conventions, including the use of actors. He objected to the split between an actor's conscious self and the character that was being played. To overcome this duplicity, he tried to dehumanize actors by making

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[32] Jarry, *Oeuvres complètes*, 1:171.
[33] Dorra, *Symbolist Art Theories*, 141.
[34] Smith notes the practice among Mallarmé's followers of using poetic images as if they were technology. Richard Cándida Smith, *Mallarmé's Children: Symbolism and the Renewal of Experience* (Berkeley, Los Angeles, and London: University of California Press, 1999), 201.
[35] Marco Frascari, *Monsters of Architecture: Anthropomorphism in Architectural Theory* (Savage, MD: Rowman and Littlefield, 1991), 61.
[36] Eileen Gray and Jean Badovici, "Maison en bord de mer," *L'Architecture Vivante* (Winter 1929).
[37] Ibid.

them "man-sized marionettes" and stripping them down to their character (see fig. 5.5). Before the staging of *Ubu Roi*, Rachilde suggested attaching the actors to strings from the wings of the stage.[38] Instead, Jarry decided that they would act mechanically. Like ancient machines, their workings remained "immanifest."[39] An actor stood in for a mechanism, which in turn stood in for a character. He believed that these new characters ultimately could become walking abstractions that would be "more alive than a passer-by."[40]

Jarry also advocated the use of masks to dehumanize actors further and to indicate the "nature of the character" more fully. Instead of "stars," he wanted a "homogeneous array of masks" or "docile silhouettes." The impassivity of a mask remained constant, regardless of an actor's spoken lines. He compared this to the solidity of the human skeleton, which always has a tragicomic quality. The mask brought this tragicomic nature (i.e., death and desire) to the surface – an ironic twist of the Symbolists' emphasis on the individual. In Martin Esslin's view, this was meant to "re-establish an awareness of man's situation when confronted with the ultimate reality of his condition."[41] This dehumanization was an existential event.

Fig. 5.5 Program from Théâtre des Pantins

Jarry also opposed the use of expressive tones and colours in an actor's voice. Instead, Ubu-esque speech was contrived. It mimicked the artificial speech patterns that

[38] Aurélien Lugné-Poë, *Acrobaties: Souvenirs et impressions de theatre, 1894–1902* (Paris: Gallimard, 1930), 170. Lugné-Poë thought of calling off the play due to Jarry's obsessive demands but Rachilde wrote a letter to Lugné-Poë, using her clout in the literary scene to encourage him to continue.
[39] After Claude Terrasse volunteered to compose music for *Ubu Roi*, Jarry was apologetic to his audience that this fairground music, which would have accentuated the mechanical qualities of his marionettes, did not materialize in the way he had hoped. Jarry, *Oeuvres complètes*, 1:400.
[40] Ibid., 1:412.
[41] Martin Esslin, *The Theatre of the Absurd* (New York: Penguin Books, 1983), 400.

Jarry used in public. The author André Gide, who found Jarry far from loveable, described this way of talking as "strange, implacable, without inflection, without nuance, with a style of equally accenting each syllable, including the mute ones. A nutcracker would speak like Jarry."[42] This voice was machine-like.

In *Ubu Roi*, the actors' costumes were stripped of all "local colour" and any hint of "chronology." Again, abstraction in dress was intended to suggest something eternal and modern. According to Adolf Loos, "An article of dress is modern if, when wearing it … one attracts as little attention to oneself as possible."[43] Masking an actor's personhood was a deliberate response to the so-called "well-made plays" of Realism and Naturalism. Jarry's ironic distancing from the subject of the play was a modern attempt to frame human action. He struggled to articulate a sense of belonging through a mechanical form of self-effacement. By effacing the self, one can set aside the ego and participate more fully in the world building of the play.

Fig. 5.6 Portrait of Eileen Gray

AN UBUIST

Self-effacement is not something that many architects promote, as it does not align with a heroic view of modernism nor with a technocrat's desire for control. Others, however, achieved self-effacement in a sensitive way, without abdicating responsibility. Kathleen Eileen Moray

[42] André Gide, "Le groupement littéraire qu'abritait le *Mercure de France*," *Mercure de France* 218, no. 999-1000 (Dec. 1946): 168.
[43] Adolf Loos, *Ornament and Crime: Selected Essays*, trans. Michael Michell (Riverside, CA: Ariadne Press, 1998), 40.

Gray was one of these people. Her non-formal training and marginal position in early modernism may have contributed to this achievement.[44] She came to architecture indirectly, through an alternative education. In 1878 she was born into a well-to-do aristocratic family in Ireland. She attended the Slade School of Fine Art in London and eventually moved to Paris to further her formal art education, but never received a degree from either the Académie Julian or the Académie Colarossi. She became more interested in the artistic culture of the city than in her formal training.[45] During this period she saw *Ubu Roi* and became an "Ubuist."

She probably did not attend either of the two original performances in 1896, but may have seen a shorter version during Jarry's lifetime or a reprise shortly after his death in 1907. "On 27 November 1901 he [Jarry] joined forces with the Champs-Élysées puppeteer, Anatole, to produce *Ubu sur la Butte*, a much reduced two-act puppet version of *Ubu Roi* at the Guignol des 4-z' Arts."[46] Amazingly, this abbreviated version of *Ubu* ran for sixty-four performances. The next full production of *Ubu Roi* occurred in February 1908. Firmin Gémier, director of the Théâtre Antoine, who played Ubu during its original two-day run, staged the play only a few months after Jarry passed away. His production was the only performance of *Ubu Roi* between 1896 and 1920.

After a period in London due to her mother's illness, Gray moved back to Paris and was put in contact with artisan Seizo Sugawara, from whom she learned the process of Japanese lacquer work. With persistence, she gained recognition for her lacquer work screens and other objects. This led her to open Jean Desert, a shop in Paris where she could sell her wares. Following this foray into the design of domestic furnishings in the early 1920s, she started to design interiors. In 1923, she designed the Bedroom-Boudoir room set for Monte-Carlo at the Salon des Artistes Décorateurs. She also contributed to the design of the Salon d'Automne that was applauded by Le Corbusier and Robert Mallet-Stevens. Mallet-Stevens asked her to come and work for him. She refused.[47]

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[44] This marginal role was chosen by Gray; however, it would have resulted also from her gender, particularly in a discipline and society dominated by males.
[45] Peter Adam, *Eileen Gray: Architect | Designer: A Biography* (New York: Harry N. Abrams, 2000), 11–45.
[46] Jill Fell, *Alfred Jarry* (London: Reaktion Books, 2010), 167. The puppet glove that was used in this show is now in the collection at Musée des Arts et Traditions Populaires.
[47] Adam, *Eileen Gray*, 249.

Fig. 5.7 E.1027, view from the coastline

Around this time she met Jean Badovici, the Romanian architect and editor of *L'Architecture Vivante* (1923–33). As Rykwert noted, "The meeting with Badovici was to prove decisive."[48] He encouraged her to start designing at a larger scale. This led her to design a few interior projects and her first architectural work, E.1027 (1926–29). This small house is situated in Rocquebrune-Cap Martin, France, on the edge of the Mediterranean Sea (see fig. 5.7). Its name is a cipher: E for Eileen, 10 for J[ean], 2 for B[adovici], and 7 for G[ray].[49] The house was ostensibly a collaboration, but mainly a product of Gray's intentions. She designed and oversaw the construction, while Badovici consulted on technical matters and made several suggestions during the design. It seems that he offered Le Corbusier's "five points" as a modernist "formula," as Gray would call it, to help shape her process. He also seems to have encouraged Gray's nascent critique of modernism.

[48] Joseph Rykwert, "Eileen Gray: Two House and an Interior, 1926–1933," *Perspecta* 13 (1971): 68.

[49] Since Joseph Rykwert penned essays on Gray's work, it has been in ascendancy. This has increased now that E.1027 is under renovation. Much of our knowledge of this house comes from a special issue of *L'Architecture Vivante* on "Maison en bord de mer," as well as from her conversations with Peter Adam, who turned his notes from their talks into a book after her death.

According to Joan Ockman, "The *intimacy* of her [Gray's] critique of modernist orthodoxy divided her work from the more extroverted theoretical research conducted by the major protagonists of the [architectural] avant-garde."[50] Though it has gone unrecognized, her work activated a dormant part of the architectural machine. I would argue that Gray's becoming an "Ubuist" influenced her critical stance.

Jill Fell notes that "Jarry directed his protest at the onslaught of the machine aesthetic through his poetry and fiction."[51] I would broaden what Fell calls the "machine aesthetic" to include both the formal and functional agendas of the machine, along with its technological imperatives. Both Jarry and Gray adopted the machine to do this. I will pursue the similarities between Gray's efforts and the intentions of Jarry's *Ubu Roi* and other pataphysical machines. Both of these artists precociously addressed the technological machine, not by fleeing its concerns or blindly adopting them, but by working *through* them.

In Gray's case, this ambition was pursued in a domestic setting. This was evident initially in her adoption of Le Corbusier's "five points," the most explicit codification of the modernist *machine à habiter*. Whether Gray was aware of the most well known set of points from the 1927 Weissenhof exhibition in Stuttgart is not important, as another set was included in *l'Architecture Vivante* in May 1927, shortly after she began to design E.1027. This publication included six points that later were edited down to the now canonical five (eliminating *suppression de la corniche*).[52]

As Kenneth Frampton notes, the five points include: the *pilotis*, "elevating the mass off the ground"; the free plan (*le plan libre*), "achieved through the separation of the load-bearing columns from the walls subdividing the space"; the free façade, "the corollary of the free plan in the vertical plane"; the horizontal sliding window (*la fenêtre en longueur*); and the roof garden (*les toits-jardins*), "restoring, supposedly, the area of

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[50] Joan Ockman, "Review: Two Women in Architecture," *Journal of Architectural Education* 46, no. 1. (Sept. 1992): 53. The word "intimacy" is in italics because Ockman is critiquing the gendered language (e.g., the word "sensitive") that is often used to describe the work of women.
[51] Jill Fell, *Alfred Jarry: An Imagination in Revolt* (Madison, Teaneck: Fairleigh Dickinson University Press, 2005), 53.
[52] Le Corbusier, "Ou en est l'architecture?" *L'Architecture Vivante: 1926–1927* (New York: Da Capo Press, 1975), 7–11.

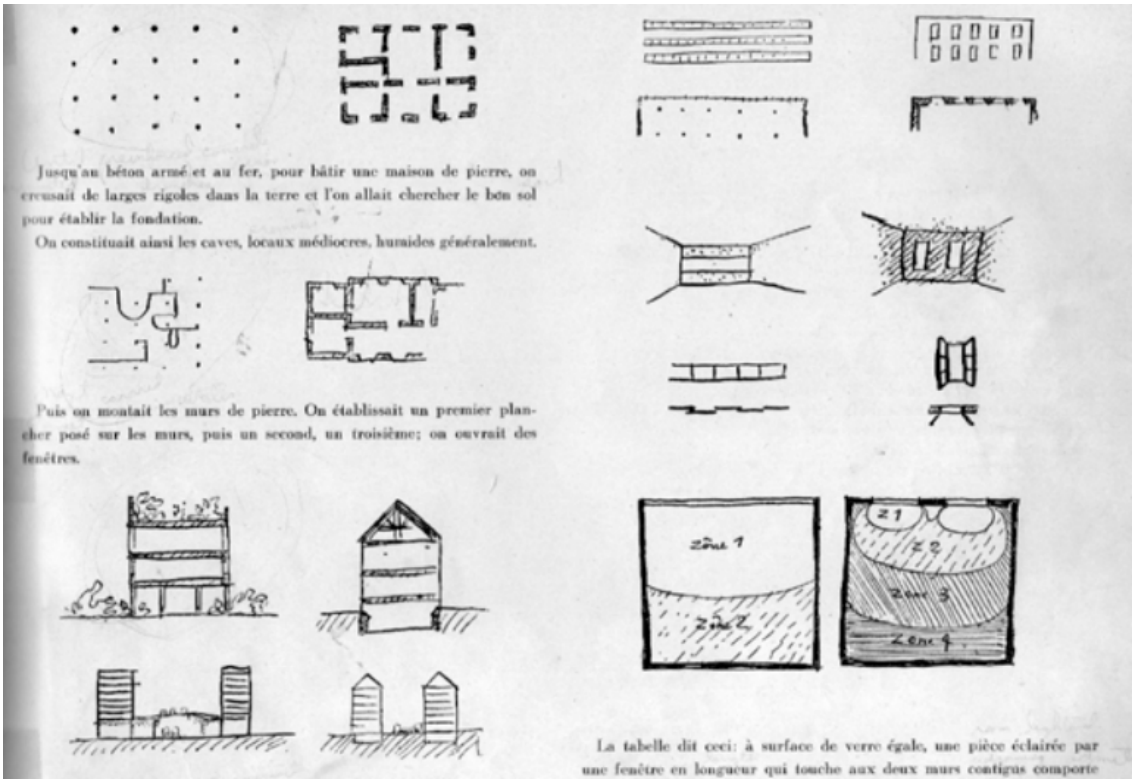

Fig. 5.8 Le Corbusier, Five points

ground covered by the house."[53] Articulated in this way, architecture becomes a machine to clear away nineteenth-century conventions of living by a "departure from existing [building] practice" (see fig. 5.8). Mary McLeod has argued more precisely that the five points suggest a causal chain. The designer moves from the concrete slab-and-column construction of the Dom-Ino frame to functional open space planning, then to aesthetic interests.[54] The private house becomes transparent as "useless" décor is removed from the interior and exterior.

By adopting these technological design tactics but introducing a different intentionality, Gray was cunningly subversive. In E.1027, she started with a central characteristic of the modernist idiom: a white crystalline geometry. The house also had literal nautical references and more subtle variations on the interior. Like Ubu, she

[53] Kenneth Frampton, *Modern Architecture: A Critical History* (New York: Thames & Hudson, 1992), 157.
[54] Mary McLeod, "'Order in the details', 'Tumult in the whole'? Composition and Fragmentation in Le Corbusier's Architecture," in *Fragments: Architecture and the Unfinished: Essays presented to Robin Middleton*, ed. Barry Bergdoll and Werner Oechslin (New York: Thames and Hudson, 2006), 291–322.

outwardly adopted the modernist "formula" as an abstract mask. Her intentions, however, repositioned both her and the machine.[55] "Simplicity does not always mean simplification."[56]

From the offshore waters of the Mediterranean, the house suggests a ship anchored on the rocky shoreline, with deck chairs, white walls, a mast on the roof, sailcloth awnings, and pipe railings (see fig. 5.9). There is also a life preserver ironically (but not very subtly) hung on the exterior railing facing the water. This gesture indicates her playful attitude towards the entire domestic ensemble, which, as I have discussed, takes on a humorous tone. This shows that her design practice was symbolic and suggestive, over and above the functional and aesthetic concerns codified by the five points.


Fig. 5.9 E.1027, view from offshore

For both Jarry and Gray, their suggestive practice depended on a more playful bearing towards making and framing human action. As a pataphysical practice, play is not devoid of intention; it incorporates rationality and the ability to "outplay this capacity for purposeful rationality," just as a child sets limits to games and pushes those limits without becoming a "spoil-sport." Players in the theatre do this regularly. On that December evening, Jarry's staging of *Ubu Roi* pushed the bounds of play for some, but remained play nonetheless (see fig. 5.10). For others, such as the playwright Georges Courteline, that unspoken pact was broken. From the audience Courteline blurted, "Don't

[55] The house also "repositioned" the nature of woman as a "liberated, mobile, and efficient force within the modern home." This "new woman," as dandies and decadents did with masculinity, challenges dogmatic ideas of femininity as a stable and predictable thing. Anna Novakov, "Text Messaging: Eileen Gray's Ville-Maison," in *The Artistic Legacy of Le Corbusier's Machine à Habiter,* ed. Anna Novakov and Elisabeth Schmidle (New York: Edwin Mellen Press, 2008), 61.
[56] Gray, quoted in Adam, *Eileen Gray*, 234.

you see that Jarry is having us on!"[57] To a person with a categorical bearing, the world of play has rigidly defined borders. "Enough of games," the Purists declared, "We aspire to a serious rigor."[58]

Fig. 5.10 Autre Portrait de Monsieur Ubu

But play can be serious business. "In this fashion we actually intend something with effort, ambition, and profound commitment."[59] The crux of play is self-representation: it is "*intended as something*, even if it is not something conceptual, useful, or purposive, but only the pure autonomous regulation of movement."[60] According to Paul Valéry, "No skepticism is possible where the rules of a game are concerned, for the principle underlying them is an unshakeable truth."[61]

Play belongs neither to the realm of the subject nor the realm of the object. It occurs in their intertwining. Play establishes spatial and temporal boundaries for action, without being deterministic. This is why it has fertile potential for transgression. Following Gilles Deleuze, Pérez-Gómez notes, "Play, as affirmation, is reserved for thought and art, where victories are for those that know how to play, how to affirm and ramify chance rather than dividing it in order to dominate and win. This characteristic is what enables art to disturb the reality and economy of the world."[62] Gray's machinations, like the ironic *Ubu*, play with the economy of the machine in various interrelated ways.

GESTURE

Ubu is emblematic of a playful practice. Jarry believed that this kind of work is atemporal and transcends the specificity of language, enabling it to "read without the

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[57] Noel Arnaud, *Alfred Jarry, d'Ubu Roi au Docteur Faustroll* (Paris: La Table Ronde, 1974), 314.
[58] Quoted from Charles-Edouard Jeanneret and Amédée Ozenfant, "Après le cubisme," in Carol S. Eliel, *L'Esprit nouveau: Purism in Paris, 1918–1925* (New York: Harry N. Abrams, 2001), 148.
[59] Hans-Georg Gadamer, *The Relevance of the Beautiful and Other Essays*, ed. Robert Bernasconi (New York: Cambridge University Press, 1989), 23.
[60] Ibid.
[61] Quoted in Johan Huizinga, *Homo Ludens: A Study of the Play Element in Culture* (New York: Harper and Row, 1970), 11.
[62] Alberto Pérez-Gómez, *Built upon Love: Architectural Longing after Ethics and Aesthetics* (Cambridge, MA: MIT Press, 2006), 210.

effort of translation something that may be as eternally tragic as Ben Johnson, Marlowe, Shakespeare, Cyril Tourneur, or Goethe."[63] Despite mentioning these precedents, he declined to explain what makes them "eternally tragic." In these examples there is a definite emphasis on the word, but for him abstraction was a priority for the stage. After stripping away décor and turning actors into machines, he focused on gesture.

A gesture engages parts of the body with their surroundings, in accordance with a silent language. Gestures can be pre-reflective, such as movements of the hands and feet when one is engrossed in conversation. They can also be intentional, such as a gesture for choking or telling someone where they can stick it. Though not all bodily movements are gestures. However, Jarry believed that this kind of bodily language is "universal." As an example, he referred to a marionette that expresses surprise by violently jerking backwards and hitting its head. I would argue that gesture is an exemplary pataphysical practice.[64] Like geometry, it can describe something on the threshold between the visible and the virtual.[65]

Gesture obviously relies on the body and the body's role in speech. Abstracted gestures lack subtlety because their nuances are not portrayed realistically. This was the case in Jarry's play *Ubu Roi*, which was disconcerting to some at the time. W.B. Yeats expressed his reservations after seeing the opening performance and returning to his room:

> Feeling bound to support the most spirited party we have shouted for the play, but that night at the Hotel Corneille I am very sad, for comedy, objectivity, has displayed its growing power once more. I say: After Stephane Mallarmé, after Paul Verlaine, after Gustave Moreau, after Puvis de Chavannes, after all our subtle colour and nervous rhythm, after the faint mixed hints of Conder, what more is possible? After us the savage God.[66]

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[63] Jarry, *Oeuvres complètes*, 1:411.
[64] We must keep in mind that the title of the Faustroll narrative in which pataphysics is defined is *Gestes et opinions du docteur Faustroll, pataphysicien.*
[65] We may narrow geometry to its mathematical aspects (particularly following Monge), stripped of any metaphysical or universal meaning for the sake of instrumental description, particularly in architecture, but these aspects have left traces that can be recovered. Gesture is involved in geometric activities, whether drawing a figure or measuring the distance between points.
[66] W.B. Yeats, *Autobiographies*, ed. William H. O'Donnell and Douglas N. Archibald (New York: Scribner, 1999), 348–9.

What Yeats describes as "objectivity" is a disconcerting appeal to the body. For Jarry, "all gestures are to the same degree artistic, and we shall attach equal importance to them all."[67] This was part of his diatribe against calculative thought, which places the body in a negligible role compared to the activities of the mind. David Michael Levin proposes, "[A] more productive character of our gestures would contribute to a radical critique of technology and would help us to recognize otherwise concealed opportunities for a new response to the nihilism in our technological machine."[68] For Jarry, gesture attunes a maker to the suggestive yet opaque nature of a pataphysical representation. Gadamer explains:

> The gesture reveals no inner meaning behind itself. The whole being of the gesture lies in what it says. At the same time every gesture is also opaque in an enigmatic fashion. It is a mystery that holds back as much as it reveals. For what gesture reveals is the being of meaning rather than the knowledge of meaning. … Indeed, no gesture is merely the expression of an individual person. Like language, the gesture always reflects a world of meaning to which it belongs. And the gestures that the artist is able to bring out in his work, the gestures that allow us to interpret the world, are never simply human gestures alone.[69]

Gesture, as I am describing it, is not exclusive to humans nor disembodied actors playing marionettes. It also plays a part in architecture: for example, in Pierre Chareau and Bernard Bijvoet's Maison de Verre (1927–32), which is certainly an exceptional work (see fig. 5.11).[70] Its designers obviously were fascinated with the machine and what it might bring to a domestic setting. It is a work that "would surely have been anathema to the fresh air and hygiene cult of the mainstream Modern Movement."[71] They approached the machine with different intentions than calculative thinking or mere aesthetics. As Kenneth Frampton notes, the house has "ambiguous characteristics," a "strangeness" about it, and is truly "other."[72] Parts of it are exaggerated and ironic. While it does not fit neatly into a universal framework, it should not be passed over as an

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[67] Jarry, *Oeuvres complètes*, 2:332.
[68] David Michael Levin, *The Body's Recollection of Being: Phenomenological Psychology and the Deconstruction of Nihilism* (London: Routledge & Kegan Paul, 1985), 127.
[69] Gadamer, *Relevance of the Beautiful*, 79.
[70] This machine has proven difficult to position; thus, it did not appear in Pevsner, Hitchcock, Giedion, and other seminal histories of early modernism.
[71] Kenneth Frampton, "Pierre Chareau, an Eclectic Architect," in *Pierre Chareau, Architect and Craftsman*, 1883–1950, ed. Marc Vellay and Kenneth Frampton (New York: Rizzoli, 1985), 242.
[72] Ibid.

Fig. 5.11 Maison de Verre, Paris

idiosyncratic expression of a rich client. Pierre Vago commented sardonically, "It is paramount for men of the 20th century to spend their days, hours, of leisure and rest in a glass box, among randomly placed columns with their rivets exposed, in a laboratory open on all sides … to receive the roast on a suspended wagon, to enter one's room via a mobile ladder."[73] Vago did not recognize the critical aspect of this work nor its "poetry of equipment." In fact, the house has a full array of mechanical implements of this kind.[74] The American/French architect Paul Nelson, one of the first to write critically about Maison de Verre, noted this condition:

> This house is a serious point of departure. It has broached technical problems and resolved them down to the last details. Purely aesthetic research has not been the

[73] Paul Nelson, "La Maison de la rue St. Guillaume," *L'Architecture d'Aujourd'hui* 9 (Nov.–Dec. 1933): 4–15.

[74] Kenneth Frampton has argued that Maison de Verre is related to Marcel Duchamp's *Large Glass* and the idea of a Bachelor Machine. Frampton, "Pierre Chareau, an Eclectic Architect," 242. Conversely, Kiesler has noted the architectural nature of Duchamp's *Large Glass*. According to Kiesler, it is "architecture, sculpture and painting in one." He warns that if we are pragmatist that we should skip over his reading because it is not intended to be purely rational because the *Large Glass* is a coincidence of opposites. It is a "surface and space" that manifests "an enclosure that divides and at the same time links." It is a series of conjoined states (i.e., motion and rest, transparency and opacity, etc.); however, as Carrouges has already pointed out, Duchamp's machine is a species of pataphysical mechanics.

> aim, but curiously enough solely through technical research this house approaches Surrealist sculpture. The pivoting door suspended in front of the main staircase is a Surrealist sculpture of absolute beauty. … All this without once wishing to indulge in 'l'art pour l'art.'[75]

This is a "technological architecture" that is "integrally defined by the exigencies of a new life and an actual knowledge of construction," and ultimately "establishes a point of departure towards a true architecture."[76] What Nelson saw as approaching surrealist sculpture is better described as a pataphysical gesture (see fig. 5.12).

Fig. 5.12 Mechanical screen and stair landing, Maison de Verre

Nearly everything in the Maison de Verre that is not structure or infill is mobilized. Its internal architectural machines make circular gestures around pivots, like its screens and furniture. Circular movement enables the spatial organization of the house to be continually reworked. Unlike the simple movement of casement windows for ventilation, the gestures of its mechanical devices draw attention to patterns of life in a critical yet suggestive way. The exaggerated turning of these machines pulls them away from their conventional use and context.[77] The swivelling bidet in the bathroom, for example, is unexpected (see fig. 5.13). This *objet-type* normally would recede discreetly into the background and would be noticed only when it is about to be used or if it stops working. In Maison de Verre, pivoting the bidet does not negate its original function but supplements it with what can be described as an "imaginary solution." The bidet's pivoting gesture enables this typical object to move in and out of a *poché* space. This

[75] Nelson, "La Maison de la rue St. Guillaume," 9.
[76] Ibid.
[77] This is similar to Marcel Duchamp's *Fountain* (1917), which was pivoted from its operational position. Unlike Duchamp's work, which was dislocated from everyday life by placing it on a pedestal in a museum, these devices were incorporated into the daily routine of the house.

expands the spatiality of the house's interior beyond what is physically present. Its seemingly excessive mechanized movement also invites a person to participate actively in the extension and contraction of the space. One can physically engage with the architectural machine as one would adjust one's clothing or stance when using the bidet. The gestures of the house's mechanisms can be considered a mute physical language. They are the "emplotment of the self into the world, not escape at all, but confrontation with the conditions of self-understanding."[78] This expresses the "being of meaning," mentioned by Gadamer in the quotation above. Instead of relying on intellectual connections, its meaning can be understood only through intimate contact with the "savage" machine on one's backside.


Fig. 5.13 Swivelling bidet, Maison de Verre

THE BODY AND EMBODIMENT

While one facet of Jarry's work pursues abstraction and suggestion, another facet emphasizes the physicality of the body. Even productions such as *Ubu Roi* that mechanize the body ironically or remove it entirely are still dependent on the body as a reference. Writing about Jarry's theatrical work, Henri Béhar notes, "Bodily practice is equal to activity of the mind."[79] This is evident not only in Jarry's promotion of gesture but also elsewhere.

Jarry discussed embodiment and existence in the chapter "Pataphysique" in his novel *Les Jours et les nuits*: "This reciprocal relationship between himself and Things which he [Sengle] was accustomed to controlling through his thought processes (but we are all at this stage, and it is by no means certain that there is a difference, even in time, between thinking, volition, and action, cf. the Holy Trinity) resulted in the fact that he made no distinction whatsoever between his thoughts and his actions or between his

[78] Smith, *Mallarmé's Children,* 199.
[79] Henri Béhar, *Jarry: Le monstre et la marionnette* (Paris: Larousse, 1973), 63.

dream and his waking life."[80] Jarry explained that the protagonist Sengle "considered that there existed nothing except hallucinations, or perceptions, and that there were neither nights nor days … and that life continues without interruption."[81] From this excerpt, we might agree with Christian Bök's assessment that "Jarry suggests through 'pataphysics that reality does not exist, except as the interpretative projection of a phenomenal perspective. … Reality is quasi, pseudo: it is more virtual than actual; it is real only to the degree to which it can seem to be real and only for so long as it can be made to stay real."[82] However, this is much too close to the late modern idea of reality as a simulacrum.[83] The idea of reality in Jarry's industrial world was not yet so abstract. Bök's reading is actually a form of Cartesian dualism channelled through a renewed disregard for the body. The link between actual and virtual that Jarry explored needs to be qualified to account for his radical focus on embodiment.

Jarry continues, "[O]ne could never be conscious of life's continuity, or even that life exists at all, without these movements of the pendulum; and the first proof of life is the beating of the heart. ... diastole gives the systole a moment's rest … these little deaths nourish life."[84] By highlighting the foundational nature of bodily rhythms, he anticipated philosopher Maurice Merleau-Ponty, who stressed that we should understand our world in conjunction with the body: "The body is to be compared, not to a physical object, but rather to a work of art."[85] This complex relationship is a continual intertwining that provides the essential ground for any subsequent abstractions.[86] This is evident also in the Faustroll narrative, in the chapter "Faustroll plus petit que Faustroll," in which the doctor, who is a work of art himself, shrinks his body to examine how this change in scale affects his relationship to the world. Faustroll's bodily experiment is part of Jarry's larger critique of society's privileging of the mind. In the everyday world, Jarry notes, "the

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[80] Jarry, *Oeuvres complètes*, 1:794.
[81] Ibid.
[82] Christian Bök, *'Pataphysics: The Poetics of an Imaginary Science* (Evanston, IL: Northwestern University Press, 2002), 8.
[83] Richard Kearney, *The Wake of the Imagination: Ideas of Creativity in Western Culture* (London: Hutchinson, 1988), 251–358.
[84] Jarry, *Oeuvres complètes*, 1:794.
[85] Maurice Merleau-Ponty, *Phenomenology of Perception*, trans. Colin Smith (London: Routledge & Kegan Paul, 1962), 150.
[86] Ibid., 140; Maurice Merleau-Ponty, *The Visible and the Invisible; Followed by Working Notes*, trans. Alphonso Lingis (Evanston, IL: Northwestern University Press, 1968), 152.

bourgeois is not learned enough to study the body."[87] The media deserves equal scorn because it devotes too much attention to the mind:

> [G]lorifying the outpourings of the human mind reflects a strangely biased point of view. It is equivalent to taking into account the activities of but one organ arbitrarily chosen from among them all, the brain. There is no reason one should not study just as fully the functioning of the pancreas or the stomach or the gestures of any limb.[88]

Eileen Gray articulated this sentiment in architectural discourse. In the May 1925 issue of *L'Architecture Vivante* Jean Badovici wrote an essay, "Interieurs Francais," with a tone that sounded highly Cartesian at first: "The action of mind on matter and the incessant subsequent reactions from matter on the mind – life in short – such as it appears in its complex movement, *such* is the object of art." This would suggest that art is reducible to a thinking subject working on or against distinct objects. His view, however, was contradicted by a subsequent statement by Gray (which aligns more closely with Jarry): "Man has not only a soul and a will, he has also a body."[89]

The reality of E.1027 also contradicts Badovici's prosaic assessment that it is "an architecture which expresses the strong will of modern man."[90] Any Ubuist would be aware of the potential dangers of the will. Conversely, we cannot accept Constant's assessment that "her private vacation houses often address issues of bodily comfort in a manner that verges on hedonism."[91] While this house on the Mediterranean certainly acknowledges leisure, it is far from a self-indulgent expression of wealth. It could have been much more opulent and hedonistic.

It is more productive to understand how Gray, like Jarry, placed a radicalized body in the foreground as she thought through the architectural machine. Constant points out, "Gray transcended such symbolic and literal appropriations of machine imagery by subsuming technological references within her more experiential understanding. She was

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[87] Jarry, *Oeuvres complètes*, 1:796.
[88] Ibid., 2:331–4.
[89] Adam, *Eileen Gray*, 225.
[90] Jean Badovici, "L'Art d'Eileen Gray," *Wendingen* 6, no. 6 (1924): 12.
[91] Caroline Constant, "Architecture and the Politics of Leisure," in *Eileen Gray: An Architecture for All Senses*, ed. Caroline Constant and Wilfried Wang (Tübingen: Ernst J. Wasmuth; Frankfurt am Main: Deutsches Architektur-Museum; Cambridge, MA: Harvard University Graduate School of Design, 1996), 154.

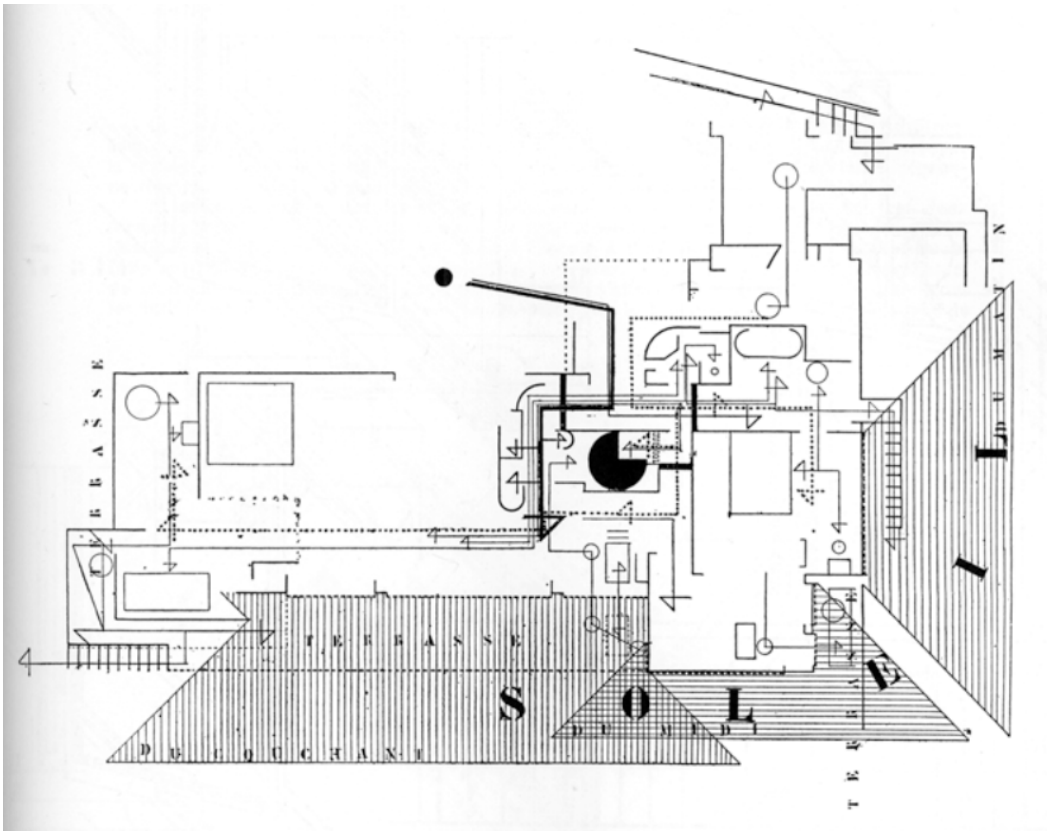

Fig. 5.14 Plan diagram, E.1027

inspired by both the efficiency of nautical fittings and their ability to adjust to bodily conditions."[92] But simply adjusting fittings to the body does not do justice to her work.

Her more prevalent interest in the body is evident in the plan diagram for E.1027 (see fig. 5.14). It relates the movement of an occupant, the movement of a servant, and the sun's horizontal penetration into the depth of the floor plan. "Gray's plan diagram suggests the possibility that architecture … can reawaken a natural – that is, a non-numerical – understanding of time, in contrast to the time-motion studies of Frederick W. Taylor, with their singular stress on efficiency."[93] Taylorism was a scientific management practice for streamlining mechanized production but was also adopted by a number of modernist architects who were interested in machine efficiency and its extension into aesthetic concerns.[94] Jean-Louis Cohen has explained how Taylorism, first seen as

[92] Constant, *Eileen Gray*, 114.
[93] Ibid., 115.
[94] "If scientific management argued that organizations and people in organizations worked, or were suppose to work, like machines, European modernism insisted on the aesthetic potential of efficiency, precision, simplicity, regularity, and functionality; on producing useful and beautiful

"horrid" by Le Corbusier, eventually was used to organize work on construction sites and change the nature of design. These principles of mass production led Le Corbusier to promote the "Machine-House" as a means of "technocratic reform" in France.[95] A clear example of an architectural application of Taylorism is the Frankfurt Kitchen (1926) by Margarete Schütte-Lihotzky, which was meant to reduce unnecessary movement by a housewife. Here the architectural machine became an instrument for bodily efficiency and control, disrupting established practices of cooking and dismissing other activities that might happen in the kitchen.

Gray's plan diagram of E.1027 emphasized "the qualitative aspects of bodily movement in space" rather than Taylorist ideas.[96] It showed the routes one can take through the house, along with their relation to sunlight. This relationship influenced design details such as the sailcloth membranes that were stretched along the porch's pipe railings in summer to shield one's body from the harsh sun, but could be removed so that "in the winter one could warm one's legs in the heat of the sun" (see fig. 5.15).[97]

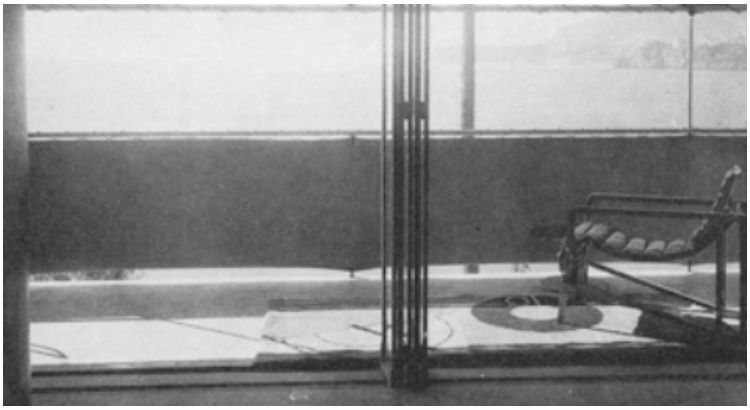
Fig. 5.15 Terrace with sailcloth membrane, E.1027

I should mention that this house is far from perfect, as some of its features do not attain the richness of Gray's ideas. Jarry would have excused them, saying, "A work is more complete when one does not edit all that is weak and bad, leaving them rather as samples that explain by similitude or difference what is parallel or contrary to them – and besides, there are some who will believe only these to be of any value."[98] The sunlight

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objects; on designing buildings and artefacts that would look like machines and be used like machines; on infusing design and social life with order." Mauro F. Guillén, *The Taylorized Beauty of the Mechanical: Scientific Management and the Rise of Modernist Architecture* (Princeton: Princeton University Press, 2006), 14.

[95] Jean-Louis Cohen, *Scenes of the World to Come: European Architecture and the American Challenge 1893–1960* (New York: Flammarion, 1995).

[96] Constant, *Eileen Gray*, 115.

[97] Gray, quoted in Adam, *Eileen Gray*, 205.

[98] Jarry, *Oeuvres complètes*, 1:173.

example above does not illustrate Gray's full intentions. It merely shows her attitude towards normative bodily comfort, which was important for habitation but did not address more than weather. I would also argue that her plan diagram was too simplified, as the bodily movements of the visitor and servant have been reduced to geometric vectors. This plan probably was not a generative representation during the design process but was produced later for the readership of *L'Architecture Vivante* after the house was complete.


Fig. 5.16 "De Stijl" kitchen, E.1027

The kitchen is the only part of the house that lacks a sense of the body because it was conceived aesthetically. Storage and preparation in any kitchen depend on various vertical and horizontal planes: some high, others at a moderate height, some open, and others capable of being closed. Because Gray was wealthy and had a live-in servant (such as Louise Dany at E.1027), she was not very familiar with the activities of the kitchen. She declared, "Oh, how I abominate housework."[99] Instead, she designed the kitchen as an abstract, three-dimensional De Stijl composition (see fig. 5.16). Not surprisingly, it failed to meet the demands of the program and Louise's body.

After noting some of the bodily aspects of Gray's work, it is important to look carefully at her intentions towards the architectural machine. In her work, embodiment was not distinct from the literal or symbolic machine. In fact, the body's symbolic and literal mechanisms were woven deeply into the critical story of E.1027. She would come to say that "a house is *not* a machine to live in."[100] Still, her work paradoxically adopted the modernist idiom of the architectural machine. "It is the shell of man, his extension, his release, his spiritual emanation. Not only its visual harmony but its entire

[99] Gray, quoted in Adam, *Eileen Gray*, 215.
[100] Ibid., 309.

organization, all the terms of the work, combine to render it human in the most profound sense."[101] To recognize the house's profound attention to the body, one must consider the role of the machine.

FECUNDITY AND EROS

When talking about embodiment, one cannot exclude the lower stratum of the body, with its deep correspondence to fecundity and eros. Both Gray and Jarry struggled to situate the body in this realm, without being reductive. While Jarry could be much more forthright, as his medium permitted grotesque and scatological ideas to be expressed directly, Gray had to be more subtle and suggestive in her architectural efforts.

As an "Ubuist," she would have had a strong whiff of Jarry's radical embodiment, with its animalistic and insatiable appetite.[102] This was outwardly manifest in Père Ubu's rotund shape. By having Ubu bring a toilet brush to the dinner table, Jarry acknowledged the full scope of a meal, from ingestion to digestion and defecation. "This insistence on excrement, the natural manifestation of the body, in a context of hyper-archaic state of grand nobility, leans toward nothing less than reacting against a suffocating culture, erecting a savant abstraction of the real, reducing the role of mind and spirit in favour of matter."[103] Ubu is anti-Cartesian. Esslin similarly argued that this sense of the bodily can reveal "a dimension of the Ineffable … to instill in him [the spectator] … the lost sense of cosmic wonder and primeval anguish, to shock him out of an existence that has become trite, mechanical, complacent, and deprived of the dignity that comes of awareness."[104] While I would downplay the shock factor for reasons already discussed, Ubu's radicalized embodiment – including "merdre" – returns us forcefully to the bare *earth* on which our human practices build.[105]

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[101] Ibid.
[102] Henri Béhar described his 1970s production of *Ubu Roi* as the "joy of creating sheer physical exuberance." Henri Béhar, "Jarry joué," *Europe* 623–4 (March–April 1981): 150.
[103] Henri Béhar, "La culture potachique à l'assaut du symbolisme: le cas Jarry," *Europe* 623–4 (March–April 1981): 30.
[104] Esslin, *Theatre of the Absurd*, 400.
[105] Jarry kept a scrapbook filled with only the poor reviews of *Ubu Roi*. *Cahiers du Collège de 'Pataphysique* 3–4 (1950): 75.

In "L'Art et la science," the first scene of *Les Minutes de sable mémorial* before Ubu makes his seminal appearance, the "Sacrilegious workers" (Silenus, Bacchus, and Diogenes) are tossed into a humid muck. He says, "[L]et us throw the symbols of philosophy and of the gods of antiquity into the dark and humid. Under our magic hands the dark and humid is outspread in libations that fecundate the earth."[106] These three ancient figures hid their true nature behind an ugly exterior, as Rabelais pointed out.[107] With this allusion, Jarry tried to describe the ambiguous link between *ordure* and order by associating pschitt with art. He implored, "And, by our art without the help of lesser gods, filth is made glorious. Let us bear the cups that delve in our artists' hands."[108] Embracing the opaque nature of pschitt is not fatalistic. Antonin Artaud, a great admirer of Jarry's work, observed, "Where there is a stink of shit there is a smell of being."[109] While Béhar and Esslin are correct, this should be seen also as a critique of calculative thought and not simply the habitual. The very condition of creative work is intertwined with the lower stratum. One can hear Badovici responding as he comes around to Gray's position, "Yes, the task of Art is to show man in his totality."[110]

Gray attempted to reconnect the modernist idiom with the fullness of "life," so that the house would be not merely an object of "intellectual detachment." She declared, "This state of intellectual coldness that we have reached, which corresponds all too well to the harsh laws of modern machines, can be no more than a transition. We must rediscover the human being in plastic expression, the human intention under material appearance and the pathos of this modern life."[111] She reiterated this position in another critique of early modernist work:

> The avant-garde is intoxicated by mechanization. But there is more than mechanization; the world is full of vivid allusions, vivid symmetries that are difficult to discover, but nevertheless real. Their excessive intellectualism

[106] Jarry, *Oeuvres complètes*, 1:187.
[107] François Rabelais, *The Histories of Gargantua and Pantagruel*, trans. J.M. Cohen (New York: Penguin Books, 1982), 37.
[108] Jarry, *Oeuvres complètes*, 1:187.
[109] Antonin Artaud, "The Pursuit of Fecality," in *Antonin Artaud: Selected Writings*, ed. Susan Sontag (Berkeley and Los Angeles: University of California Press, 1988).
[110] Adam, *Eileen Gray*, 225.
[111] Gray and Badovici, "Maison en bord de mer."

> suppresses that which is marvellous in life, just as their misunderstood concern for hygiene makes hygiene intolerable.[112]

Amidst over-zealous mechanization and antiseptic hygiene, Gray claimed a space on the margins of modernism to acknowledge the full sense of the body (see fig. 5.17). The visual preoccupation of modernity was just as problematic. Gray stated concisely, "The art of the engineer is not enough if it is not guided by the *primitive needs* of men. Reason without instinct. We must mistrust merely pictorial elements [aesthetics] if they are not assimilated by *instinct*."[113] What is naturally base in humankind must be accounted for in the architectural machine.

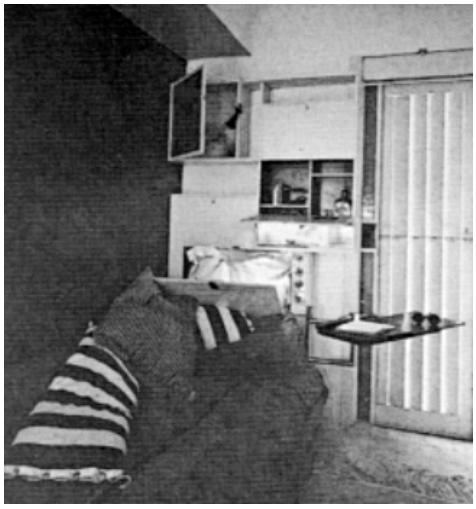

Fig. 5.17 Mechanical built-in, E.1027

One sees this interest in a much more concrete way in Maison de Verre. Even a cursory inspection of the overly articulate plumbing in the bathroom and surgery room shows that the intentions were hardly about hygiene (see figs. 5.13 and 5.18). In fact, the modernist interest in hygiene was radicalized and turned on its head. The plumbing was not buried inside the walls but was made of polished conduit and carefully out away from the surface of the wall. Nested within the larger machine house, the bathroom and surgery room are in fact mechanisms preoccupied with pschitt.

Fig. 5.18 Surgery room, Maison de Verre

[112] Ibid.
[113] Adam, *Eileen Gray*, 216.

MEDIATING TOTALITY AND OPENNESS

Gray conceived the house from the inside to the outside (i.e., from the particular to the general) as a place for an interior life that included retreating and thinking. This resonated with the Symbolist approach at the fin-de-siècle. "Symbolist enshrining of domestic indoor spaces established a new metaphor for personal interiorization that continued into the work of numerous early Modernists who inherited not only Symbolist theories but also the Symbolists' search for solace from the city."[114] In a double move, they engaged the city but also held it at bay. Nietzsche articulated the individual's position within this modern setting:

> Sensibility immensely more irritable …; the abundance of disparate impressions greater than ever: cosmopolitanism in foods, literatures, newspapers, forms, tastes, even landscapes. The tempo of this influx prestissimo; the impressions erase each other; one instinctively resists taking in anything, taking anything deeply, to "digest" anything; a weakening of the power to digest results from this. A kind of adaptation to this flood of impressions takes place: men unlearn spontaneous action, they merely react to stimuli from outside. They spend their strength partly in assimilating things, partly in defense, partly in opposition. Profound weakening of spontaneity: the historian, critic, analyst, the interpreter, the observer, the collector, the reader – all of them reactive talents – all science![115]

Both Gray and the architect Paul Nelson can be placed among these heirs for exploring the domestic ensemble as a restorative support for the individual amidst the "prestissimo" of the city.[116] Apart from this "reactive talent," one wonders what else was available. An objective during the nineteenth century was to manifest fantasy in the domestic interior:

> For the private person, living space becomes, for the first time, antithetical to the place of work. … The private person … demands that the interior be maintained in his illusions … From this springs the phantasmagorias of the interior. For the private individual the private environment represents the universe. In it he

[114] Hirsh, *Symbolism and Modern Urban Society*, 233.
[115] Friedrich Nietzsche, *The Will to Power*, trans. Walter Kaufmann and R.J. Hollingdale, ed. Walter Kaufmann (New York: Vintage, 1968), 47.
[116] "Evoking the Symbolist notion of the correspondences between the tangible and the intangible … seems closer in spirit to the nineteenth-century writings … than to Badovici's more scientific and functionalist terms of reference." Constant, *Eileen Gray*, 55.

> gathers remote places and the past. His drawing room is a box in the world theatre.[117]

A prime example of a Symbolist interior was the character of Jean des Esseintes in Huysmans's novel *À rebours.* Des Esseintes fled from Paris to withdraw from public life and cultivate an inner life. Much of the book chronicles him designing this interiority as a place apart from the everyday: by selecting proper books, choosing colours for the walls, and even gilding and bejewelling a large tortoise so that it could wander around the room and juxtapose with the Oriental carpets. This was a resolutely artificial environment; even natural things were made to seem contrived, all for the sake of "triggering empyreal meditation."[118]

Gray's work and Nelson's work embrace interiority with a less ornamental iconography but are equally separated from public, urban space. E.1027, for instance, consists of two levels (with the bedrooms, living room, kitchen, and exterior space on the main level; and the maid's chamber, sitting area, and guest bedroom on the lower level) with various multi-programmed spaces. The rooms were treated as independent entities, isolated like individuals. Badovici explained that the "general mood" of the house "seems to be like the components of a soul, the soul of its inhabitant, whose outer form corresponds to its inner rhythms."[119] For Badovici, who did not always speak on Gray's behalf, this accorded with the modernist premise that form should follow function; however, for Gray the design was more nuanced.

To present her sense of the house's interiority, Gray adopted an eighteenth-century drawing technique in which the floor plan occupies the centre of the image and elevations of the interior walls are placed in a radial pattern around it, as if they could be cut out and folded up to represent an interior space (see fig. 5.19). Members of De Stijl had revived this technique, as shown in the Fall 1925 issue of *L'Architecture Vivante*. It "articulates the principle of a total concept of design wherein wall and window, furnishings, and floor and carpeting contribute equally to the creation of a complete and private milieu."[120]

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[117] Walter Benjamin, *Reflections* (New York and London: Harcourt, 1978), 154.
[118] Hirsh, *Symbolism and Modern Urban Society*, 238–47.
[119] Badovici, "L'Art d'Eileen Gray," 12–13.
[120] Constant, *Eileen Gray*, 105.

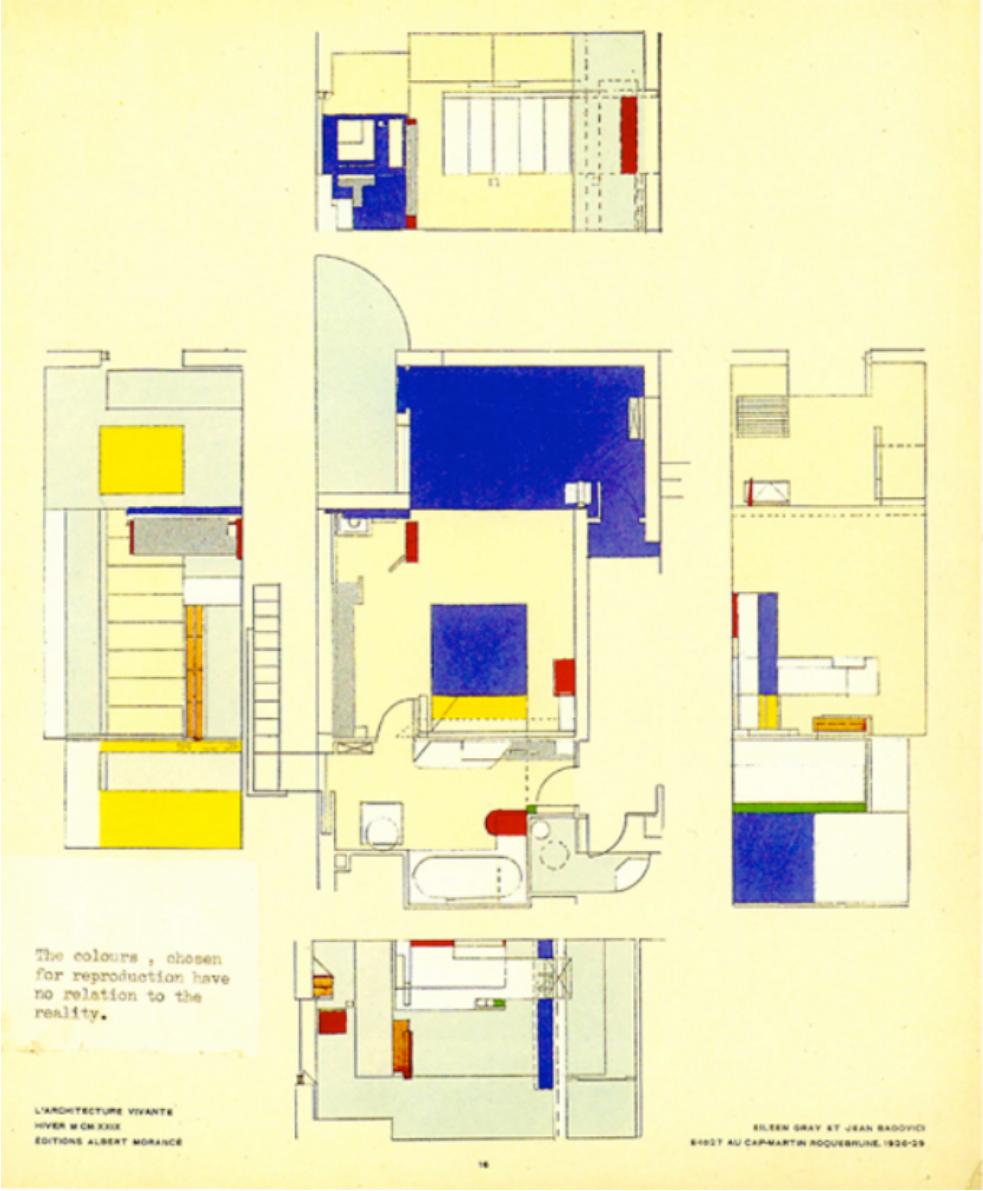

Fig. 5.19 Plan and elevations for bedroom, dressing room, boudoir/studio, and bathroom, E.1027

Conjoining fragmented elements into a unified whole could be interpreted as an attempt to produce a "total work of art" (*Gesamtkunstwerk*), but Gray's intentions were different. The idea of the "total work of art" lingered in early modernity after being a popular topic during the late nineteenth and early twentieth century, particularly in the theatre. It can be traced through Art Nouveau back to Richard Wagner. In Wagner's concept of the theatre, all of the arts would be unified. His work was a conscious effort to

build an all-encompassing aesthetic world where spectators could gaze in admiration at a new "synthesis" of myth and legend.[121]

The architect Adolf Loos parodied this idea in his story "Poor Little Rich Man." He criticized the Vienna Secessionist architects (who had inherited the idea from Art Nouveau) for designing houses as "total works of art." Their intentions towards design led to a totalizing obsession that Loos believed went too far. For instance, a homeowner's slippers were allowed only in particular rooms because their colour strained the mood if worn in a neighbouring space. Loos joked that the owner of the house was unable to accept gifts or buy anything new because he already had "everything." The man was "complete." Loos ended his critique by noting that the owner "was excluded from the future, from living and striving, becoming and wishing." He rejected works that define tolerances with increasing control. By securing control, they would negate the future *as* future. As Loos realized, nothing would remain open.

There is a great affinity here with the Symbolist critique of the total work of art. The Symbolists' primary concern was to preserve the essence of the invisible, while giving it tangible form. Their work was intended to be much more open-ended. In Adolph Appia's words, the Symbolists were "saving Wagner from Wagner." What he meant is that Wagner's overly elaborate productions were distorting the basic aims of theatre. Too much was materialized and under the control of the work's creator. Like Loos, the Symbolists insisted that an ensemble needed to be filled in by the participant rather being a finished spectacle for a passive onlooker.

Fig 5.20 Great room, Maison de Verre

Loos, among others, experimented with open domestic ensembles that promoted future uses that had not been defined in advance. As George Baird notes, Maison de Verre (see fig. 5.20)

[121] Thomas S. Grey, ed., *The Cambridge Companion to Wagner* (Cambridge: Cambridge University Press, 2008), 179–91.

sustained "the possibility of future life" through a similar Loosian openness in its machine language:

> [M]odernity was represented in a precocious array of technological virtuosities: Pirelli rubber tile flooring, glass block, manifold uses of innovative metal screens, and electrical apparatus. Second, the array of visible motifs was multiplied, layer upon layer, in a giddy collage of cross-cultural references: paintings of Lurcat, antique furniture already belonging to the clients, new furniture designed by Chareau and upholstered by Lurcat, a grand piano, as well as archaeological artefacts from the classical world. In short, the interior of the Maison de Verre took the modernist, Loosian open unity of conception to the very limit of its possibility.[122]

Gray's E.1027 was situated somewhere between a total work of art and a Loosian open ensemble. In this house the *objet-type* also disappeared. In its place she substituted her furniture designs, which she called "le style camping."[123] They were "flexible, light, and portable, capable of assuming different configurations to accommodate a range of activities; a table can serve as a desk, dining surface, or coffee table, for example."[124] Each combined multiple elements into a singular piece (see fig. 5.21). These hybrid furnishings supplemented the temporal qualities of life in the house and contributed to a general openness in planning due to their light construction. Their "temporary" nature led Gray to call them "precarious." They contrasted the more stable and fixed built-ins, such as the cupboard at the front entry, the multi-purpose headboard for her bed, and the foldaway desk, which were intended for more regular activities such as entry, rest, reading, and sleep (see fig. 5.22).

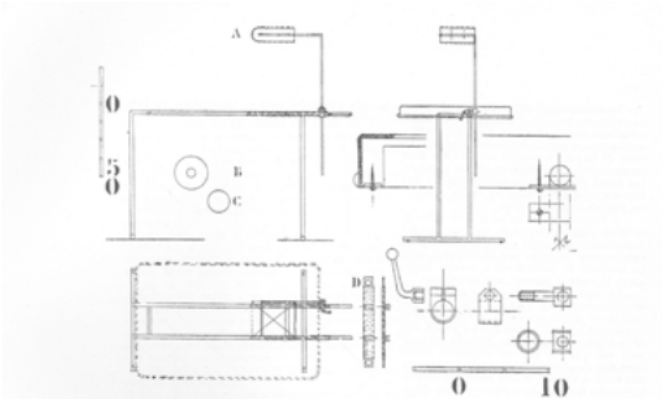

Fig. 5.21 Dining table, E.1027

[122] George Baird, *The Space of Appearance* (Cambridge, MA: MIT Press, 1995), 48–50.
[123] The word "camping" etymologically relates to the Italian word *campo*, from the Latin *campus*, signifying 'level ground' for games, athletic practice, and military exercises, as in the Campus Martius in Rome. The furniture then may be seen as a practice ground.
[124] Constant, *Eileen Gray*, 105.

These two ways of living (with their different temporalities) were carefully coordinated for the individual. While the house supported the individual by defining rooms as individual units, it also needed unity in its larger composition. "[A]s in Gothic times [the house should be] a homogeneous whole built for man, to human scale, and balanced in all its parts."[125] Gray continues:

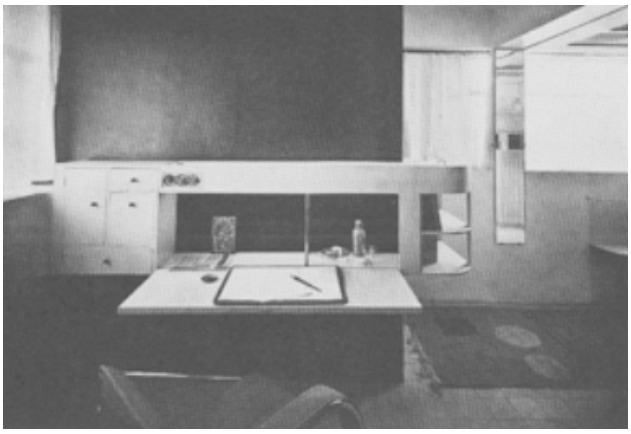

Fig. 5.22 Built-in desk and shelving, E.1027

> - It is clear that they [modern architects] build houses just like engineers build their machines. But is that necessary?
>
> - In terms of technique, yes. But technique is not everything; it is only the means. One must build for the human being, that he might rediscover in the architectural construction the joys of self-fulfillment in a whole that extends and completes him. Even the furnishings should lose their identity by blending in with the architectural ensemble.[126]

This notion of losing one's identity is shared with the theatre. In the theatre this occurs when an actor projects beyond himself, setting aside his ego to become a character. This happens in reverse when a scientist dissociates his identity from a scientific inquiry. Each process takes an ephemeral and limited individual and makes them transcendental; however, as Badovici notes, "science only provides an abstract and theoretical indication."[127] It does not provide self-understanding, nor can it adequately mediate between the individual, abstractions, and the world. One's pre-judgements remain, so one is not really placed at risk. When Jarry became Ubu, he extended his character beyond its previous limits and lived as if life were a work of art, swelling space in his wake. Jarry's loss of identity was cultivated as an ethical stance, not merely a naïve

[125] Gray and Badovici, "Maison en bord de mer."
[126] I have substituted "identity" for "individuality" in the quote. Constant, *Eileen Gray*, 239–40.
[127] Jean Badovici, "Eileen Gray," *L'Architecture Vivante* (Winter 1924): 27.

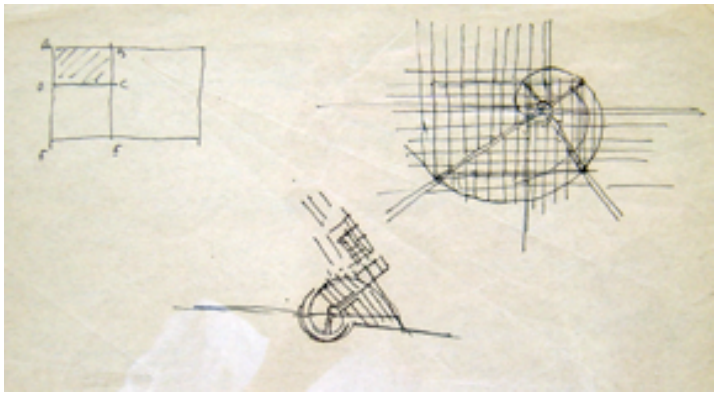

Fig. 5.23 Spiral sketch by Badovici, E.1027

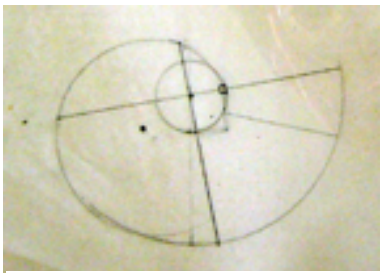

Fig. 5.24 Spiral drawing by Gray, E.1027

act. According to Richard Kearney, "Ethics without poetics leads to the censuring of the imagination; poetics without ethics leads to dangerous play."[128]

Gray's architectural machine encourages a loss of identity by encouraging a person to blend with the domestic ensemble. This is evident in the ubu-esque spiral at the house's core (see figs. 5.23 and 5.24). Its proportions set up the schematic dimensions throughout the house. It also connects the various levels of the house and rises through the roof to form a glass spire that reaches towards the sky.

E.1027 was also open to new variations and readings that the architect did not anticipate. According to Jarry, works by the architect are not complete in themselves. "These works must wait for some additional beauty" that architects "themselves cannot invest in them, but which the future holds in store."[129] Through insight or accident, a work may "disclose unanticipated routes," as Badovici said of Gray's efforts.[130] This contrasts technology's means-and-ends rationale, which defines the end *to be* achieved. Symbolically meaningful activity instead engages socio-cultural norms and our historical past to continually challenge assumptions and redefine objectives. It exudes a different temporality that does not try to control the future.[131] Although the nature of these "unanticipated routes" cannot be determined in advance without "defuturizing the future," the qualities of E.1027 suggest that it would be open to supplementary insights

[128] Richard Kearney, *Poetics of Imagining: Modern and Post-modern* (New York: Fordham University Press, 1998), 236.
[129] Jarry, *Oeuvres complètes*, 2:203.
[130] Badovici, "Eileen Gray," 27.
[131] Lorenzo C. Simpson, *Technology, Time and the Conversations of Modernity* (London: Routledge, 1995), 63–94.

involving environment, materiality, history, and social significance.[132] At the same time, it would resist changes motivated by solipsism or hedonism.

Gray's pataphysical approach did not endorse values that are typically associated with the machine: detachment, objectivity, neutrality, autonomy, and "emancipation." Although she did not dismiss technological ambitions entirely, she did recognize some of their limits:

> It's always the same thing. Technique becomes the primary concern. By focusing on the means one forgets the ends. If we aren't careful, standardization and rationalization, both excellent means for reducing cost, will only lead to providing buildings that are even more deprived of soul and identity than those we have seen thus far.[133]

As she would say later, in the 1940s, "the poverty of modern architecture stems from the atrophy of sensuality. Everything is dominated by reason in order to create amazement [aesthetics] without proper research."[134] Her imaginative search was mediated through the machine – another affiliation with Jarry – rather than the phantasmagoria of artefacts that one would find in Huysmans's novel *À rebours* or in a fashionable Parisian department store such as Le Bon Marché at the turn of the century. Sensuality in these other settings relied on material items that could become possessions. Pérez-Gómez articulates this as a failure in late modernity:

> The impossible, unattainable goal of eros would be eventually "resolved" by late-modern culture through unending consumption. Technological artefacts aim to please, always to the point of orgasm; they demand unceasing reiteration, never capable of quenching our thirst yet fueling our yearning for possession and control, while hiding humanity's mortal essence.
>
> By contrast, erotic space is not transparent to instrumental reason and entails a mode of participation that does not require "fulfilment." Rather, the artist and the lover, participant and inhabitant, all want to face the beloved and not be destroyed, accepting the simultaneity of pleasure and pain, life and death, the integrity of cultural memory. Erotic space is both lived space and aesthetic space,

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[132] Gray's willingness to accept changes to her work extended only so far. Le Corbusier built two buildings near E.1027 and painted frescoes inside it. Gray did not approve of the paintings. Peter Adam says, "It was rape. A fellow architect, a man she admired, had without her consent defaced her design. Le Corbusier had covered most of her walls, though sometimes respecting the neat inscriptions she had put on the outside of the drawers and cupboards to mark their contents. The two witty inscriptions 'DÉFENCE DE RIRE' and 'ENTREZ LENTEMENT' were incorporated in his murals." Adam, *Eileen Gray*, 311–12.

[133] I have substituted "identity" for "individuality" in the quote. Constant, *Eileen Gray*, 40.

[134] Adam, *Eileen Gray*, 216.

> unlike the either/or condition set by the work of art and by scientific epistemology in early modernity. The fundamental nature of this space is lack rather than the possession of plenitude.[135]

Gray recognized "the joys of self-fulfilment" while opposing the ubu-esque desire to "dumbinate" and possess. To her, making was not the pursuit of unlimited satisfaction; instead, she worked ingeniously *through* the machine toward participation and eros.[136] E.1027 brought together different programmatic elements within compact, discrete spaces. The living space on the main level was for eating, resting, reading, and relaxing, with particular areas demarcated subtly by built-in furniture and changes in floor colour. Walls and floors were conjoined by sharing colour, pattern, and materiality. The boudoir doubled as a study (see fig. 5.25). In eighteenth-century literature, the boudoir had been a private and erotic space for the lady of the house. In E.1027, combining it with the study was meaningful, as both spaces are withdrawn from social contact. It also suggested an erotic interpretation of the study, beyond its normal function. Their coupling pointed a way towards eros.[137]

Fig. 5.25 Bedroom/boudoir/study, E.1027

[135] Pérez-Gómez, *Built upon Love*, 64–5. "[W]ithin both the postmodernist and technological attitudes, the world is viewed either as a mere occasion for the unlimited satisfaction of desire, or as a resource for unlimited making." Simpson, *Technology, Time and the Conversations of Modernity*, 153.

[136] Slightly modified lyrics by The Beatles seem apt: Eileen "was quizzical, studied pataphysical / Science in the home / Late nights all alone with her test tube / Oh, oh oh oh." John Lennon and Paul McCartney, "Maxwell's Silver Hammer," *Abbey Road* (Apple Records, 1969).

[137] This is an erotic condition that does not "wish to prepare other lives." Jarry, *Oeuvres complètes*, 2:248. The editors of the Gallimard edition of Jarry's complete works see this as part of *l'univers celibataire*. On a personal level, neither Gray nor Jarry had children. For all accounts, he was homosexual and Gray was bisexual.

This is evident also in the entry sequence to E.1027 (see fig. 5.26). The house, perched on the coast in southeast France, is not easily accessed via any route. There are no roads or even a driveway that lead to the main entry, unlike Le Corbusier's Villa Stein-de Monzie, where the car is king. A visitor must walk along the rugged hillside or land a boat at the shore and climb the hill. Approaching E.1027 from the northern side, one comes to the house obliquely. Upon entering, one can take the servant's route to either of the two kitchens or proceed towards the main space.[138] Choosing the main route, a visitor must make an 180º turn to arrive at the entry door. Passing the threshold, one is screened from the main space by a built-in hall cupboard that stops short of the ceiling. Turning 90º and a few steps past the cupboard, one is already halfway into the main living space. "The *Maison en Bord de Mer* is indeed hardly an open plan at all. On the contrary, it is almost reasoned out into a container for a carefully articulated way of life."[139]

Fig. 5.26 Approach to E.1027

[138] The two kitchens are seasonal. There is a daily kitchen for any time of year and a summer kitchen for hot days.
[139] Rykwert, "Eileen Gray," 69.

Although the entry sequence is intentionally prolonged, Gray was not trying to construct a maze (see fig. 5.27). She used a loose mechanical metaphor instead of a vehicular metaphor to describe the entry: "Entering a house is like the sensation of

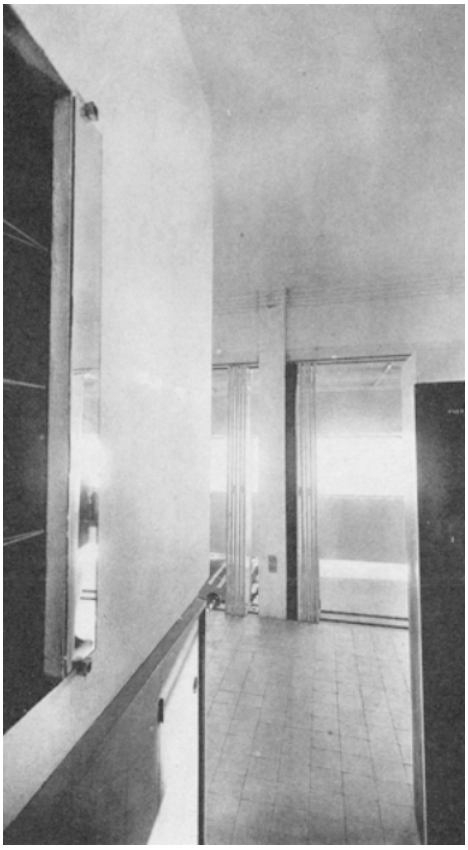

Fig. 5.27 Entry sequence into E.1027

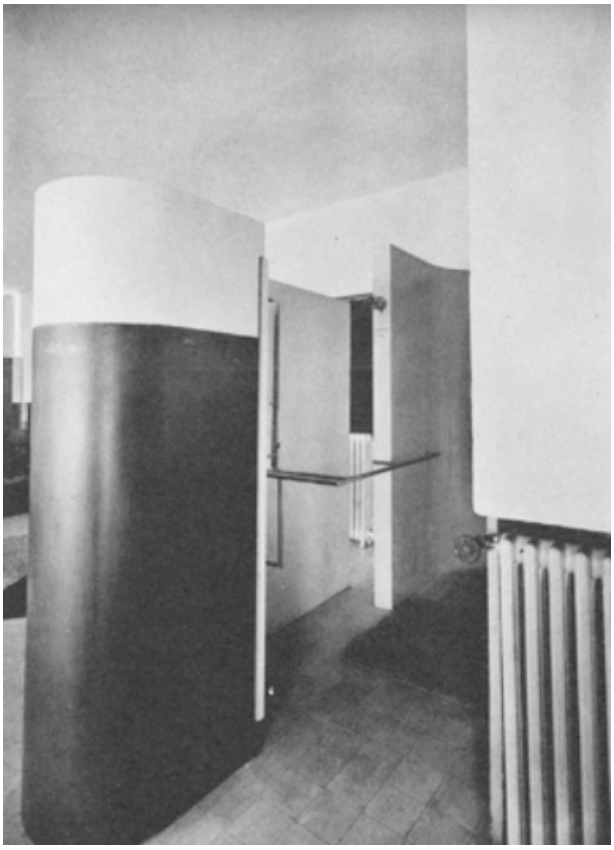

Fig. 5.28 View towards entry, E.1027

entering a mouth which will close behind you … or like the sensation of pleasure when one arrives with a boat in a harbour, the feeling of being enclosed but free to circulate."[140] It was not fully defined like a "total work of art." Avoiding qualities of the *machine à habiter*, Gray wanted this entry sequence to be enigmatic by retaining "[t]he desire to penetrate a transition which still keeps the mystery of the object one is going to see, which keeps the pleasure in suspense."[141] This is like a perpetual virginity.

A similar interest in the erotic potential of architectural machines is evident in Paul Nelson's La Maison Suspendue.[142] Like Gray's E.1027, his house project sought to

[140] Adam, *Eileen Gray*, 217.
[141] Ibid., 217.
[142] Paul Nelson was known as an American in France and a Frenchman in America. He was actually born in Chicago in 1895 and died in 1979, six years after becoming a French citizen. He

make "a whole unit of culture favourable to the renewal and regeneration of the individual" by providing "a place of insulation allowing every degree of intimacy and reclusion." Although he stated that his project would "increase his [the inhabitant's] potential contribution towards the community," he did not explain this idea about community, nor is it evident in the project; however, he did describe how the house offers "a new space that one can call 'useless' in comparison to a purely functional space of material needs."[143]

Much of the architecture of La Maison Suspendue supports the activities of its inhabitants conventionally, without calling attention to them. Nelson argued that domestic activities (disregarding their cultural specificity) have not changed much since Roman times, although their physical arrangements have been slightly altered.[144] Instead, Nelson sought to devise spaces with "contradictions" that would be "complex and non-simplistic."[145] The house was to be "useful" and "useless," with "order and disorder," "constraint and freedom," "clarity and mystery."[146] These opposites would coincide and would be held in an enriching tension. This is precisely what Nelson meant by "suspendue." The house would cultivate a state of being "in-between," somewhat like Jarry's algebraic definition of the divine: "God is the tangential point between zero and infinity."[147] To describe the house as "suspended," akin to Duchamp's "delay," is another way of saying "eros."[148]

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studied at Princeton, where he knew F. Scott Fitzgerald. After being a flyboy in the Great War, he spent most of the 1920s studying at the École des Beaux-Arts and with Auguste Perret. While in Paris, he made a number of friends within the artistic avant-garde and took up painting while continuing to design. After graduating he received a series of private commissions, including becoming the artistic director for *What a Widow!* (1929). This Hollywood film, starring Gloria Swanson, led him to be commissioned by Joseph P. Kennedy to design his private film theatre in Bronxville, NY. He also worked on a project for George Braque's house in Normandy and a series of medical works leading up to La Maison Suspendue.

[143] Paul Nelson, *La Maison Suspendue* (Paris: Éditions Albert Morancé, 1939), n.p.

[144] Judith Applegate and Paul Nelson, "Paul Nelson: An Interview," *Perspecta* 13 (1971): 102.

[145] This approach avoided taking one side or another in a debate, such as the horizontal-versus-vertical window debate between Le Corbusier and Auguste Perret. His attention to contradiction also anticipated Robert Venturi's polemic.

[146] Nelson, *La Maison Suspendue*, n.p.

[147] Jarry, *Oeuvres complètes*, 1:734.

[148] "Eroticism is a subject very dear to me. . . . In fact, I thought the only excuse for doing anything was to introduce eroticism into life. Eroticism is close to life, closer than philosophy or anything like it; it's an animal thing that has many facets and is pleasing to use, as you would use a tube of paint." Duchamp, in an interview with George H. Hamilton and Richard Hamilton, in

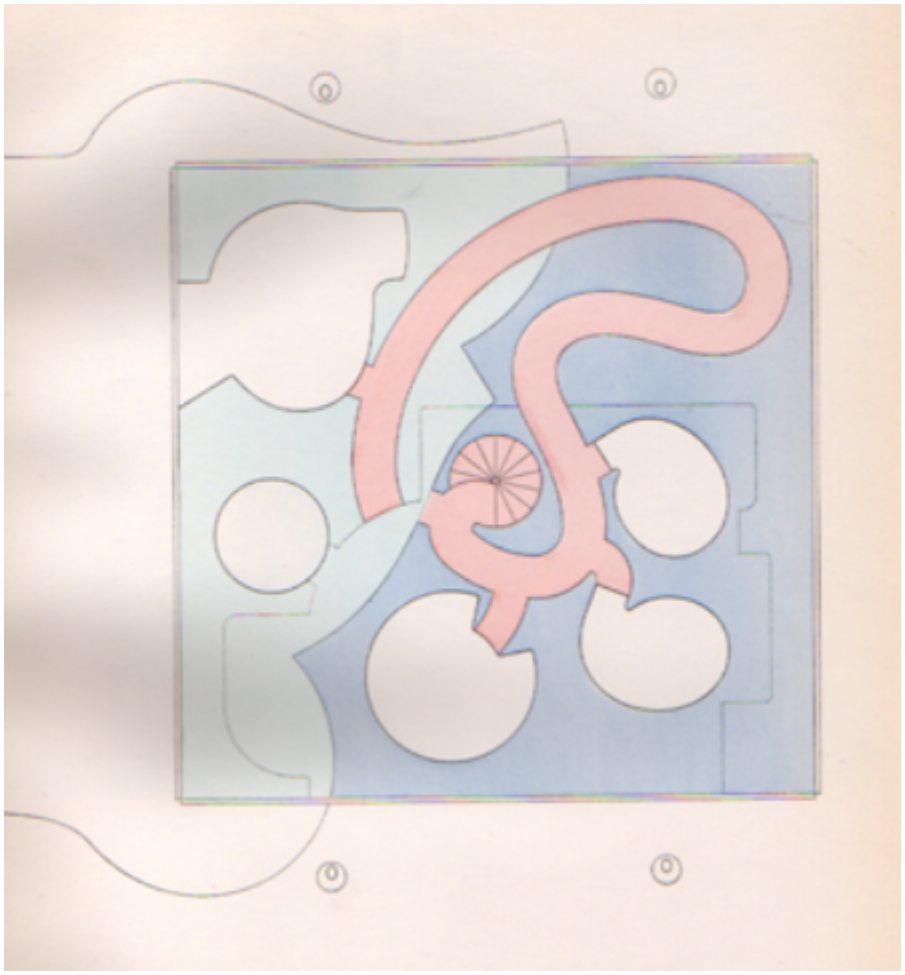

Fig. 5.29 Plan, La Maison Suspendue

Nelson's intentions are evident in the pre-fab units that are suspended in section. He said that they offer a flexible model that relies on the machine for manufacturing but challenges its usual determinism. Unlike articulated rooms that fit their function like a glove or open plans that can accommodate nearly any activity, the spatial organization of these units exists somewhere in between, like Gray's conjoined spaces in E.1027 (see fig. 5.29). Nelson described the house's condition as "superfluous." Although this statement may seem to promote the separation of art (as subjective freedom) from natural life (as objective necessity), that interpretation would be misleading.

With his interest in metaphor (discussed in the previous chapter), he was actually pursuing an imaginative and symbolic order in which the architectural machine would

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"Art and Anti-Art," BBC radio broadcast (London, 1959); quoted in Arturo Schwarz, *The Complete Works of Marcel Duchamp* (London: Thames & Hudson, 1969), 80.

transcend mechanization. For instance, he compared these pre-fab units to Socrates' "nest": a reference to the Socrates character in Aristophanes' comic play, *The Clouds* (423 B.C).[149] Aristophanes portrayed Socrates as a fraud and a sophist, which at first may seem like an odd reference for Nelson to make. The significance of Socrates' nest is that it was hung from a *mechane* (see fig. 5.30). As noted in Chapter 1, a *mechane* was an ancient theatrical machine, associated contentiously with *deus ex machina*. By placing Socrates, as a sophist, in the nest, Aristophanes drew an analogy between the machine's ability to make weak persons seem stronger and the sophist's capacity to make weak arguments seem stronger, regardless of their ethical virtue. I would argue that Nelson's reference was an ethical criticism of the machine for living in (see fig. 5.31). He construed the domestic ensemble in a manner that allied architecture with other arts, while coupling modern and ancient ideas. He was also attempting to work through the machine.

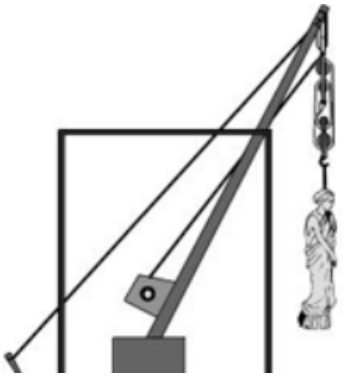

Fig. 5.30 *Mechane* (speculative reconstruction)

Fig. 5.31 Paul Nelson, La Maison Suspendue

The real sense of "suspension" in the house comes from the mystery of the space. Nelson believed that the whole interior should not be disclosed all at once, but gradually over time.[150] Instead of being transparent to the gaze, it would invite embodied participation through its multiple routes that play off of the circulation of Villa Savoye.[151] The entry to Gray's E.1027 also did not survey its surrounding spaces, unlike the Corbusian *promenade architecturale* that is composed for a disembodied eye: for example, along the controlled series of ramps in Villa Savoye, where a variety of

[149] Aristophanes, *Clouds. Wasps. Peace*, ed. and trans. Jeffery Henderson, Loeb Classical Library (Cambridge, MA: Harvard University Press, 1998).
[150] Applegate and Nelson, "Paul Nelson: An Interview," 102–5.
[151] Ibid., 102.

perspectives present themselves. E.1027, like La Maison Suspendue, is less optical; it follows a different bearing.

In E.1027 this was manifest also in the mediation between interior and exterior. Unlike the modernist strip window, with its sharp distinction between inside and out, E.1027 has a "layered membrane" that includes mobile wooden shutters on the exterior wall (see fig. 5.26). They were partially a response to climatic conditions in southern France, allowing air to circulate for cross-ventilation, without permitting the harsh summer sun to penetrate deep into the room. They also established visual limits. According to Gray, "A window without shutters is an eye without eyelids."[152] Consequently, one side of the house could be visually closed (but still open to the wind) while another side would remain open to frame a view of a lemon tree or the sea's horizon.

Gray's position on bodily experience and optics became even more poignant when Le Corbusier suggested to Badovici that he remove the cupboard between the entry door and the main space (see fig. 5.28). This built-in element delays entry and frustrates a desire to survey the work in its entirety (i.e., aesthetically), whether from the entry door to the main space or from the interior back towards the entry. This is a lack made solid. The cupboard's defiant position initiates the mysterious lack that recurs throughout the house and resists optical consumption by a visitor.

These two works, E.1027 and La Maison Suspendue, established machine ensembles that disclose the bittersweet nature of eros through a prolonged anticipation that mechanized society normally would regard as an impediment. Gray's architectural machine, like Nelson's, embraced the contingent as she promoted the house's openness to unforeseen circumstances and a true sense of the future. Despite the technological gains of the machine, works such as these show that architecture can still retain a bittersweet condition and a truth that makes them profoundly human. Jarry articulated this concisely when he said, "Human Truth … is what a man seeks: a desire."[153]

[152] Gray quoted in Constant, *Eileen Gray*, 241.
[153] Jarry, *Oeuvres complètes*, 1:950.

POSTSCRIPT TO A FUTURE PATAPHYSICAL BEARING

> [W]hat could become history if the masses, instead of marching along straight ahead, went off on another track.[1]

According to Nietzsche, "The press, the machine, the railway, the telegraph are premises whose thousand-year conclusion no one has yet dared to draw."[2] I believe Nietzsche's statement rings true today because conclusions are still difficult to delineate. While some may suggest that we have moved on from our industrial machine roots, I would beg to differ. As Italo Calvino noted, "The iron machines still exist, but they obey the orders of weightless bits."[3] While the present age may be described as the "information age" or "digital age," we must be mindful that the machine is actually more diffuse. This, of course, is part and parcel of the technological project. Michel Haar explains, "The project at work in Technology is a metaphysical project because it concerns all domains of reality and not only machines. It marks beings in their totality."[4] Nearly all human activities – not just productive activities – are steeped in it. Even humans have been brought under its reign. It has permeated life so thoroughly that we hardly notice it.[5] The production of higher yields or working towards the most efficient means over others, homogenizes ways of thinking. Mechanisms cannot be separated from the "broader process of normalization and subjection of the observer" – and ultimately the architect.[6]

Technological practice seeks to establish more efficient and productive ways to secure the future, transforming the world by introducing new products and practices that

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[1] Gustave Kahn, "Social Art versus Art for Art's Sake," quoted in Richard Cándida Smith, *Mallarmé's Children: Symbolism and the Renewal of Experience* (Berkeley, Los Angeles, and London: University of California Press, 1999), 169.
[2] Friedrich Nietzsche, *Human, All Too Human*, trans. R.J. Hollingdale (New York: Cambridge University Press, 1996), 377.
[3] Italo Calvino, *Six Memos for the Next Millennium* (Cambridge, MA: Harvard University Press, 1988), 8.
[4] Michel Haar, *The Song of the Earth: Heidegger and the Grounds of the History of Being*, trans. Reginald Lilly (Bloomington: Indiana University Press, 1993), 80.
[5] Technology," as Max Frisch defines it, is "the knack of so arranging the world that we don't have to experience it. Max Frisch, *Homo Faber*, trans. Michael Bullock (New York: Harcourt, 1959), 178.
[6] Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1991), 17.

previously were out of reach. This is what Jacques Ellul described as the "totalitarian" nature of technological practices.[7] Although it is crucial to be critical of technological practices, there exists a deeper conflict. Jarry articulated this clearly in his novel *Le Surmâle*. The book climaxes with a sexual contest in which "the limits of human capacity were passed in the same way as the familiar landscape of a suburb is seen to disappear from a train window."[8] The characters André (the Supermale) and Ellen set out to break an ancient record described by Theophrastus. Together, they have eighty-two sexual encounters in two days, their writhing bodies operating like a perpetual motion machine, surrounded by onlookers. Their superhuman feat appeared to end misogynistically in Ellen's death – but when the Supermale admitted, "I adore her," she awakened and declared her love for him.[9] Her father, an American scientist modelled on Thomas Edison, then demanded that the Supermale marry her.

In true modernist fashion, the engineer Arthur Gough was called in to deal with the situation. He contrived a most "unnatural" machine: "La Machine-à-inspirer-l'amour." It was not intended to produce a physical effect, but to act on forces that are more elusive. It would "match machine *against* machine" for the "preservation of bourgeois science, medicine, and morality."[10] As modern man was already a mechanism, maintaining the equilibrium of the world required a machine that could manufacture a soul. Gough quickly contrived a water-powered, electro-magnetic dynamo. The Supermale was strapped into the machine to make him fall in love with Ellen. When the switch was flipped, the machine sent a current four times stronger than an electric chair through a "crenellated crown" on his head, which made him appear like a persecuted Christ. Unexpectedly, the unconscious Supermale began to influence the machine: "It was the machine that fell in love with the man."[11] The engineer then realized that this was bound to happen. Just as earlier humans had become stronger than beasts, modern

[7] Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Alfred A. Knopf, 1970), 125.
[8] Alfred Jarry, *Oeuvres complètes,* ed. Michel Arrivé, Henri Bordillon, Patrick Besnier and Bernard Le Doze (Paris: Gallimard, Bibliothèque de la Pléiade, 1972–88), 2:249.
[9] Ibid.*,* 2:265.
[10] Ibid.*,* 2:267. My emphasis.
[11] Ibid.*,* 2:269. Capitalized in original.

humans must become stronger than machines if they are to survive in a world where machines are all-powerful.

Jarry's "neo-scientific" novel revisited a longstanding conflict that can be traced back to a classical story. In Book 10 of *On Architecture*, the Roman architect Vitruvius chronicles an ancient battle in which the protagonists were not armies:

> He [Diognetus] made a breach in the ramparts where the machine was to come, and ordered everyone publicly and in private to collect water, sewage and mud and, coming forth, to pour it along channels through the breach in front of the rampart. After a great amount of water, mud, sewage, had been poured down overnight, the next day the siege engine [of king Demetrius] came along; and before it drew up to the wall, it was engulfed in the wet ground and stuck, nor could it get on or get out.[12]

This story presents the architect in a militarized role, but it also points to other issues.[13] The attacking force was not overcome by a more advanced technique nor by a larger machine; instead, it was deflected by the cunning of the architect, who rallied the community in a well-timed fecal response. The dregs of the townspeople produced a perfectly unsuitable foundation that undermined the attacking architectural machine. No doubt it would have been a pschitty day if Diognetus's plan had failed.

Vitruvius believed that the architect's "ingenuity is of more avail than machines."[14] Ingenuity can triumph in an exceptional situation. Both the siege engine and the defecatory response involved technique, but the *techne* of the architect depended on his nimble stochastic ability to hit a target, like an archer. This practice was ultimately conjectural; success depended on taking advantage of a fleeting opportunity at the right moment (*kairos*).

Unlike Diognetus and Vitruvius, we no longer inhabit a mythical world that is alive and well. Instead, we reside in a technologically conditioned world in which calculative thought and technology operate on dead matter. This has become a given situation that we cannot simply escape or abandon. It would be irresponsible to pretend that we can return to some golden age. Similarly, an architect cannot become a

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[12] Vitruvius, *On Architecture*, trans. Frank Granger (Cambridge, MA: Harvard University Press, 1970), 10.16.1–8. My emphasis.
[13] Serafina Cuomo, *Technology and Culture in Greek and Roman Antiquity* (New York: Cambridge University Press, 2007), 75–6.
[14] Vitruvius, *On Architecture*, 10.16.8.

contemporary Luddite by throwing pschitt into machines. Such responses would be shortsighted and even dangerous

Reversing the machine's instrumentality and cultural levelling is unlikely; still, we cannot afford to remain "the sex organs of the machine world," as Marshall McLuhan described modern humans.[15] This dilemma has caused a great unease that Paul Ricoeur described as a "sickness" – a predicament humorously illustrated by the many neurotic characters of the filmmaker Woody Allen. Responding passively or cynically to this technologically induced sickness is not beneficial; however, Jarry and others have discovered viable ways to challenge the sway of the machine. One of these is precisely *through* the machine tradition.

PATAGOGY

The status of architecture in a technologically conditioned world is fraught with challenges, to put it mildly. We must keep in mind that the machine still contributes to this condition; at the same time, it remains an inescapable part of the architect's realm. In some ways, it makes a welcome contribution to the disclosure, delineation, and efficacy of an architectural work, especially in an educational setting, where architectural students are notoriously busy. Some technological practices do ease the burdens of class requirements and deadlines; however, the machine becomes troublesome when it dictates a student's orientation, questions, and process in an uncritical way. In this situation, a certain architectural education may provide some resistance.

In an architectural studio, technological imperatives are evident in various ways, including the reduction of design to a scripted equation, self-consistent design logic, endless iterations, and systematic methods of realistic representation. It is also evident in the ambition to optimize every activity. Perhaps this is why a student's first question is often about deadlines and grading. Although technological imperatives certainly have increased students' abilities to make sophisticated images and work out structural and HVAC systems, questions about their broader orientation remain. Students – at least many I have encountered – usually do not appreciate the importance of cultural, socio-

[15] Marshall McLuhan, *Understanding Media* (New York: McGraw Hill, 1964), 46.

political, and imaginative dimensions in architectural work. This is not entirely their fault; one must also question the larger premises of education.

When architectural education is conceived as a vocational wing of the profession, this disinclines most students from grappling with deeper questions. Although this pedagogical approach may seem to anticipate a student's future professional life, it is too narrow. Assuming that a studio project is equivalent to a "real" project in an office is an illusion, as many of their circumstances are different. Believing that graduating students must be fully equipped to enter a professional office recuses the profession from its educational responsibilities. The freedoms provided by the differences between a design studio and a professional office should be celebrated and not suppressed by overextending the analogy.

If architectural education is to have any sustained significance, it will be through negotiating imaginative and ethical positions. This is where Jarry's science has something to offer, as a stance that encourages students to ask more penetrating questions about the nature, biases, and role of their practices. It could help them reconsider the tools they tend to adopt at a professor's behest. It could even encourage them to imagine alternate possibilities for a society that has been shaped by technology but not fully circumscribed by it.

As with Jarry, one option is to draw attention to underlying premises on a day-to-day basis. A design critic can critique contemporary biases by starting at the lowest levels, by carefully formulating the framework for a project, including the student's role as a designer and the student's relation to the design critic. As the process unfolds, students should become conscious of their language, their materials, and their tools. They should be aware that a lasor-cutter and a tablesaw, for instance, have fundamentally different relationships to the their ways of approaching the task, including materially. From here, one can consider assumptions about the body and the rhetorical aspects of an architect's work. Embracing fortune, ugliness, and failures can draw attention to an overreliance on mere aesthetic taste. Students should also engage other fields of knowledge such as literature and theatre. When these are in place one can pursue

architecture as a suggestive and e-motional machine that is properly grounded and thoughtful in its use of representation.[16]

While I believe that broad reorientations could contribute substantially to studio practice, I would like to suggest some ways in which Jarry's lessons could shape pedagogy directly: in various speculative forms of "patagogy." For instance, a design studio could address an exceptional program. Asking students to design a synagogue with no members in a German town would provoke debate about the program of an architectural work. A memorial to the Japanese bombers at Pearl Harbour could do the same. As with Jarry's constant reversals, ironic, and provocative programs would bring social, political, cultural, and historical issues to the foreground, challenging students to set aside professional neutrality and take a stand. Instead of mere rational analysis, greater complexity, unending production, this would encourage them to engage the synthetic imagination in the syzygy of words and deeds. In short, a pataphysical approach could overturn a student's normal reliance on narrow functional and aesthetic premises.

Neil Spiller describes a possible pataphysical approach:

> It is an architecture that dovetails into its site at not just the anthropocentric scale but at ecological scales, microcosmic and cosmoscopic scales. … An architecture that hasn't forgotten history, or how we are all different. An architecture that rejoices in that difference. An architecture whose exquisite tailoring is imbued with nuances that resonate with familiar and non-familiar worlds. An architecture that knows where it is and why it is and what it has to offer ….[17]

One could also translate Jarry's works (and their intentions) into new architectural monsters that delights in play and suggestion. For instance, what would be the architectural equivalent of Jarry's rewriting of the Christian Passion as a bicycle race? What would be the architectural implications of Jarry's approach to the islands in the Faustroll narrative? Can the participatory depth of *Ubu Roi*'s backdrop inform an approach to a façade or interior condition? Students could study a machine building such as E.1027 and imagine it in a new context – or even translate it fully into a new artefact or a new geography. This would oblige them to recognize works as more than just objects or products of functional requirements. It would get them past mere reproduction through

[16] I must credit the formulation of "e-motional" to Alberto Pérez-Gómez.
[17] Neil Spiller, "Digital Solipsism and the Paradox of the Great 'Forgetting'" in *Architectural Design*, 80 (July–Aug. 2011): 134.

drawing and diagramming. It would encourage them to work in non-traditional ways and understand the role of history in defining one's stance and one's values. A pataphysical project would establish limits within the endless array of current technical possibilities without conservatively imposing arbitrary boundaries. It would also offer richer and deeper possibilities than what technologically savvy architects currently offer society.

RE-TURNING

Retracing the infernal circle, we return to Jarry's revolving mechanical tower, where we began. He advocated not only demolishing the "ruins" but also bringing his unyielding "scientific" commitment to work *through* the architectural machine to erect fine, well-ordered buildings. Although his practice was ultimately marginal, it retained traces of the machine's much older cultural heritage. Despite being improbable and often deceitful, his practice always sought more than domination, possession, and consumption. Pataphysics and its machines are undeniably controversial in our technological age, but offer cultural insights for building various kinds of works, not just machines *per se.*

Perhaps with some pataphysical luck, one could recreate Vitruvius's story and again be "freed not by machines but by the intelligence of the architects *against* the functioning of machines."[18] This is precisely why the pataphysican-cum-architect's "scientific" practice offers "a potential model for architecture."[19] Pataphysical mechanisms open dimensions beyond reductive function or aesthetics, with the potential to destabilize imperatives of the technological project by adopting technology in deeply compelling ways.

The conclusion of my study is that the architect's role can be re-expanded and deepened as a pataphysical practice. Architecture involves the imaginative capacity to focus cultural meaning by giving material, spatial, and temporal *suggestion* to human activity. The profoundly erotic, imaginative, and oneiric circumstances of a work constitute a dream for "a universe which can be – and perhaps should be – envisaged in the place of the traditional one, since the laws that

[18] Vitruvius, *On Architecture*, 10.16.12. My emphasis.
[19] Alberto Pérez-Gómez and Louise Pelletier, *Architecture Representation and the Perspective Hinge* (Cambridge, MA: MIT Press, 2000), 297.

are supposed to have been discovered in the traditional universe are also correlations of exceptions."[20] This broad agenda would be uncomfortable for some, but that should not derail the effort. Jarry's work (appropriately translated) and the various architects I have addressed offer a positive alternative – analogous to the play of the work of art – that speaks to the "ethernal" and improbable wager of world building.

Jarry's revolving tower, rooted in the earth and constantly changing its horizon, is an emblem of this wager. So is Jarry's Supermale, the "first of a future race," who initially succumbed to the engineer's machine but eventually reversed the electro-magnetic current and caused the machine to fall in love with him. The machine heated his crown from red-hot to white-hot, causing it to melt. The crown wept glass tears down his face and sank its viscous, white-hot teeth into his temples. Breaking free to flee the agony, he died with his flesh "twisted in the [mansion's] ironwork." The ending of this story recognizes limits that are sorely needed to face the nihilism in our age.

Expressing an identical sentiment, Rykwert says, "Architecture must be the constant ground of all our action and suffering."[21] Jarry's machine manifests this through death, symbolized by his revolving tower, which completes a full circle once every hundred years – an event that no individual is likely to witness. Still, this is not a fatalistic condition, as Jarry reminds us at the end of the Faustroll narrative. One must "acquire enough experience to savour all its [pataphysical] beauties in full."[22] Architecture can reveal these beauties only partially, through the bearing of a shared and embodied condition that recognizes our possibilities and our limits. Paradoxically, the building of culture can take place *through* the machine itself: to seek out, as did Jarry, a realm where "the Past lies beyond the Future."

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[20] Alfred Jarry, *Selected Works of Alfred Jarry*, ed. and trans. Roger Shattuck and Simon Watson Taylor (New York: Grove Press, 1965), 192–3. Jarry, *Oeuvres complètes*, 1:668.
[21] Joseph Rykwert, "The Necessity of Artifice," in *The Necessity of Artifice* (New York: Rizzoli, 1982), 59.
[22] Jarry, *Oeuvres complètes*, 1:1237–8.

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APPENDIX: REVIEW OF LITERATURE

Due to the interdisciplinary nature of this project, this review of literature cannot capture the full breadth or depth of the sources that were investigated during the preparatory phase of the dissertation. Setting out an artificial framework for these highly varied works was a challenge, so I have devised broad headings under which most of the sources can fit. Beneath these headings, I discuss some of the relevant sources in detail, while glossing others.

To begin, this project recognizes that the machine has been under the purview of the architect since antiquity. Understanding the central role of the machine in architecture changes one's approach to it. I have chosen not to focus solely on the modernist period, when the machine seemed to offer a novel and rational way to understand the intercourse among architectural design, development, and production. Instead, this study intentionally challenges those narrow limits by looking more carefully at the longer history of the machine.

Many authors have interpreted the machine according to function and aesthetics.[1] However, there was more to the machine. To understand this more fully, I started by studying many secondary sources.[2] For general historical orientation, E.J. Dijksterhuis's

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[1] Henry Russell Hitchcock, *Modern Architecture: Romanticism and Reintegration* (New York: Da Capo Press, 1993). Analysis in this work was approached almost always in purely visual terms, stemming from new technological methods. This approach was exacerbated a few years later with the International Style exhibition (1932) at MoMA where Hitchcock and Philip Johnson were responsible for de-politicizing modernist work and reducing it to a style, thus making it palatable for the coming generations of architects.

[2] Indra Kagis McEwen, "Instrumentality and the Organic Assistance of Looms," in *Chora: Intervals in the Philosophy of Architecture*, vol. 1, ed. Alberto Pérez-Gómez and Stephen Parcell (Montreal and Kingston: McGill-Queen's University Press, 1994), 123–42. McEwen discusses the distinction between *machinae* and *organa* in Vitruvius's *Ten Books* and his sources. She points out how "efficient production" was not the exclusive production of these works and how they "allow" the world to appear. Mary Carruthers, *The Craft of Thought* (Cambridge: Cambridge University Press, 1998). Carruthers discusses the medieval period where the "machine" was not contrasted to the "human," unlike in modern times. It was also connected directly to architecture. For instance, Isidore of Seville drew an etymological connection between the "machine" and *masiones* used in the construction of buildings that is furthered by a connection to St. Paul and Daedalus. Machines here were a trope of the cosmic mechanisms of the Divine. "All these structures lift, raise, and move. They are all constructions of a variety of materials, made for a variety of purposes, good and ill. They are all tools for lifting and making." That is to say, contemplation is also a machine (St. Augustine and Gregory the Great) built from the memory

The Mechanization of the World Picture is a vast and erudite study in the history of science. It describes the emergence, development, and continuity of the concept of the world as "mechanical" (not merely mechanics as the science of motion).[3] Dijksterhuis says, "This book is really an attempt to discover what it means to speak of a mechanistic world-picture." To do so, he deals not only with machines, but also with principles of science, technology, industrialization, and philosophy that situate this view. It shows that the history of science was not separate from cultural history. In this study, mechanization is not understood as picturing the world as a machine, as this presupposes a maker and purpose, nor is mechanization a simple dichotomy that is opposed to organic or animalistic notions. Rather, it depends on the mathematization of nature, which itself is based on deductive and functional thinking. He believes this can be traced back to Greek origins, citing a number of examples that cannot be discussed adequately here.

Also helpful for a broader view of my subject was Friedrich Klemm's *A History of Western Technology*, which considers the intertwining of technology and the cultural history of ideas from Greco-Roman times to the near present.[4] It presents a wide range of primary sources that were useful as I focused on selected periods and themes. Equally useful was *A History of Mechanical Inventions*, by economic historian Abbott Payson Usher.[5] It pays meticulous attention to details of technological evolution: what he calls the "nuts-and-bolts" of this evolution. Although some of the text is reductive, with a

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and not *ex nihilo.* (Foundation was already present in the Bible and one was responsible for superstructure.) Also extremely helpful was Lorraine Daston and Katharine Park, *Wonders and the Order of Nature* (New York: Zone Books, 1998). Zakiya Hanafi, *The Monster in the Machine: Magic, Medicine, and the Marvelous in the Time of the Scientific Revolution* (Durham, NC: Duke University Press, 2000). Hanafi examines the notion of monster (loosely defined as "whatever we are not" though it shifts) which became visible through man's making and "became a machine." Deals primarily with Italy though it touches on other contexts including René Descartes. David F. Channell, *The Vital Machine: A Study of Technology and Organic Life* (New York: Oxford University Press, 1991). Channel looks at the division of mechanic and organic that were latent in the Greek world that broke down in the nineteenth century. He is useful to contextualize the machine in the nineteenth century. For example, he points out the internal critique that appeared as the mechanistic theory was pushed towards absurdity with the mechanistic work of Faraday and Maxwell.

[3] E.J. Dijksterhuis, *The Mechanization of the World Picture* (Princeton: Princeton University Press, 1986).

[4] Friedrich Klemm, *A History of Western Technology*, trans. Dorothea Waley Singer (Cambridge, MA: MIT Press, 1968).

[5] Abbott Payson Usher, *A History of Mechanical Inventions* (Cambridge, MA: Harvard University Press, 1954).

highly progressive view of history, its exposition of important moments and subtle shifts was helpful. Closer to architecture, the historian Siegfried Giedion's *Mechanization Takes Command* and Lewis Mumford's *Technics and Civilization* were useful in a similar way.[6]

Dalibor Vesely's "Architecture and the Question of Technology" frames the issue of the machine, both historically and philosophically.[7] This essay was paramount to the formation of my position. In discussing the question of technology in architecture, he follows Martin Heidegger's insights in looking beyond the impasse of utility versus aesthetics. He does this to understand the relation between technology and creativity in architectural thinking. In searching for possibilities of situated action, he shows that the domain of art can offer resistance to the sway of technology. In the Western tradition, ancient *techne* (simultaneously art and science) is shown to have been superseded by technique. In turn, technique gave way to modern technology. He argues that the attitude and will of the creator were most decisive in these epistemological shifts, and that technology proper was a historical possibility of the will and knowledge as power. In other words, technology had a "mission" to dominate and control. Technology, in this sense, was a form of "emancipated knowledge," dissociated from the immediate political and cultural context to avoid contradiction and proclaim reason. Historically, this abstraction replaced other ways of working within the world, eliminating certain possibilities for action as it biased human understanding toward technological practices. Vesely finds hope in the fact that the creator's will is always situated and therefore must legitimize its validity. He also finds hope in the positive limitations of participation, embodiment, and death. He concludes that it is only through the things that technology does not touch directly that one can begin to develop an appropriate way to act within the technological world.

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[6] Siegfried Giedion, *Mechanization Takes Command* (New York: Norton, 1948). Giedion observes mechanization's "anonymous history" as an "unescapable influence over our way of life, our attitudes, our instincts." He cross-reads this history with the fine arts and architecture. However, the text deals with too much material and too many issues to review here. Lewis Mumford, *Technics and Civilization* (New York: Mariner Books, 1963). Mumford tries to account for the effects of the artificial environment of technics on humankind and our relationship to the world.

[7] Dalibor Vesely, "Architecture and the Question of Technology," in *Architecture, Ethics, and Technology* (Montreal and Kingston: McGill-Queen's University Press, 1994), 28–49.

A number of texts were extremely important to my understanding of the ancient machine. Karin Tybjerg's essay, "Wonder-making and Philosophical Wonder in Hero of Alexandria," describes the machine's ancient epistemological context.[8] She argues that historians who failed to contextualize Hero's mechanics have marginalized his work. Many referred to his devices as toys, neglecting their thaumaturgic nature, which often was more important than their usefulness. For Hero, wonder and utility were inseparable forms of knowledge that could be conveyed through mechanics in an outward demonstration [*apodeixis*]. Hero's mechanics were considered crafty or deceitful when appearance and reality did not match or when the natural order of things appeared to be ruptured. These devices followed the Greek notion of *metis* [cunning intelligence] in a mythical tradition with certain divine manifestations. Prometheus and Odysseus were other *polymechanôs*. Hero would hide [*kryptô*] the mechanics or make them invisible [*aphanês*] from the audience using pneumatics and automata, in order to produce multifaceted [*poikilos*] effects of wonder. The hidden motives of this show [*epideixis*] were intended for spectators, while the maker was as fully aware of the contrivances as Daedalus was aware of the design of the labyrinth. The terms "show" [*epideixis*] and theatrical "arrangement" [*diathesis*] were used also in rhetoric. Hero was ambivalent about rhetoric, referring to a philosopher's argument as being merely "plausible" [*pithanos*] and "calculated to persuade." To him, this allowed philosophers to "escape through the back door." Unlike Aristotle, Hero considered theory and practice, the distinction between wonder and utility, and philosophy and mechanics to be more intimately linked.

Reading Marcel Detienne and Jean-Pierre Vernant's *Cunning Intelligence in Greek Culture and Society* developed my understanding of *metis*.[9] This text describes a complex mode of intelligence that emphasized practicality, resourcefulness, and success in a sphere of action that was ambiguous (i.e., not measurable). Unlike the search for the immutably true, it was wily, cunning, and crafty. Cunning intelligence was acquired over years, developing in agonistic situations that it shared with future periods. As mind and

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[8] Karin Tybjerg, "Wonder-making and Philosophical Wonder in Hero of Alexandria," *Studies in History and Philosophy of Science* 34 (2003): 443–66.
[9] Marcel Detienne and Jean-Pierre Vernant, *Cunning Intelligence in Greek Culture and Society* (Atlantic Highlands, NJ: Humanities Press, 1978).

body were not yet separate, it was an integrated bodily intelligence, rather than being just intellectual. It could be used in craft, sport (e.g., hunting, fishing, and battle), eros, and sophistry. It was an *in situ* thinking that acknowledged human immanence and could bend to suit the moment. Its essential features were "pliability and polymorphism, duplicity and equivocality, inversion and reversal … certain qualities which are also attributed to the curve, to what is pliable and twisted, to what is oblique and ambiguous as opposed to what is straight, direct, rigid and unequivocal." Its essential form was the "circle, the bond that is perfect because it completely turns back on itself, is closed in on itself, with neither beginning nor end, front nor rear, and which in rotation becomes both mobile and immobile, moving in both directions at once." Detienne and Vernant also briefly discuss *metis* in relation to the Aristotelian treatise *Mechanica*, which describes devices that "enable the smaller and weaker to dominate the bigger and stronger." Because these "machines" were based on the circle, they "appear as the strangest, most baffling thing in the world, *thaumasiotaton*, possessing a power which is beyond ordinary logic."

In a similar way, this understanding is brought to bear in architecture in the essay, "The Architect's Métier: An Exploration into the Myth of Daedalus" by Alberto Pérez-Gómez. By following the vicissitudes of architectural history, he notes that pre-classical machines were characterized by *thaumata* and that *techne* was the "knowhow of the *demiourgoi*." These technical actions depended on *metis*, a "propitiatory power or practical cleverness" that could shape disorder. Daedalus demonstrated this ability in his making of *daidala*. Equally, Jean-Francois Lyotard's "Considerations on Certain Partition-Walls as the Potentially Bachelor Elements of a Few Simple Machines" argues that the first bachelor machine was Pandora (i.e., a *daidalon*).[10] He interprets the machine as a "*trap* set to catch the forces of nature." Therefore, it was not an "instrument" or "weapon," but a "contrivance" that was both joined to nature (i.e., depended on natural forces) and not joined to nature (because it also countered nature). Pérez-Gómez explains that "the accent is placed on the relationship between the parts and the whole." He says that these works "reproduce" life rather than represent it, being "marvellous animated

[10] Jean-François Lyotard, "Considerations on Certain Partition-Walls as the Potentially Bachelor Elements of a Few Simple Machines," in *Le macchine celibi / The Bachelor Machines*, ed. Harald Szeemann (New York: Rizzoli, 1975), 98–109.

machines with brilliant suits of armour and scintillating eyes. … Like ritual, this architecture is *mimesis* of a transcendental emotion, not an imitation of a material object. The ritual building, its making, was the architecture." Daedalus used his cunning (*metis*) to design the labyrinth, in which "dance was the architecture." In other words, the labyrinth was a space of ritual, rather than being understood as an object, as would become common after the Scientific Revolution.[11]

Lorraine Daston and Katharine Park, *Wonders and the Order of Nature, 1150–1750*, was immensely helpful for understanding the broader context of wonder, order, and the status of human artifice in general. The essay, "The Machine in Architectural Thinking," by Liane Lefaivre and Alexander Tzonis was also informative, although somewhat vague in its detail.[12] They argue that the machine in architectural thinking began as "thaumaturgic" or "mirabilia" (i.e., wondrous and playful works). It was developed originally through analogical thinking but encountered a shift following the insights of Galileo. The architect's thinking then became mechanistic, which eventually replaced older approaches as mechanization infiltrated all other areas of architecture. They argue that the modernist machine was an attempt to reconcile mechanization with fantasy. During this period, architects turned the building into a metaphoric machine. Although this reconceived an entire building as ornament, it "remained in a state of half paradox and crisis from the time of its inception."

ARCHITECTURE AND THE MACHINE

Fundamental to my understanding of architecture and the machine are works by Alberto Pérez-Gómez: specifically *Architecture and The Crisis of Modern Science*, as

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[11] "Like the labyrinth, the *choros* is a gap related to the receptacle of Being and Becoming in Plato's *Timaeus*, space or *chora* 'which is eternal and indestructible' and was identified with chaos. The *choros* is, of course, the place for ritual, for the *dromenon* during archaic times, a place where only the individual's embodied participation would produce the magical effects desired, i.e., the attainment of order and spiritual security in the world. Eventually, in classical times, the same *choros* or orchestra with a *theatron* added, would become the place for drama, for tragedy, the re-presentation of the order of the world with the same effect of metaphysical orientation on the spectators." Alberto Pérez-Gómez, "The Architect's Métier: An Exploration into the Myth of Daedalus," *Section A* 2, no. 5/6 (1985): 13.

[12] Liane Lefaivre and Alexander Tzonis, "The Machine in Architectural Thinking," *Daidalos* (Dec. 1985): 16–26.

well as *Architectural Representation and the Perspective Hinge*, co-authored with Louise Pelletier.[13] The former describes the watershed moments during the epistemological revolution that followed Galileo and Descartes. This new understanding of geometry and number drastically changed the machine's relation to the world, as well as how the world understood itself through the machine. The Scientific Revolution demanded a more functional and technical approach to architecture, downplaying mystical and numerological concepts in favour of "utopian objectives of technology" that contributed substantially to the Industrial Revolution. Its first major formulation in architecture was the work of Jean-Nicolas-Louis Durand (1760–1834). Durand brought mathematical reason and positivism to architecture. In more modern times, Pérez-Gómez argues, Le Corbusier's position was based "on the misconception that man inhabits not qualitative places, but a homogeneous and universal geometric space."[14] A similar argument is advanced by Pérez-Gómez and Pelletier in *Architectural Representation and the Perspective Hinge*: that Le Corbusier's use of axonometric was aligned with the "homogeneous and transparent space of modernity … recognizing it as part of our way of seeing things." Although his use of axonometric was adopted from Auguste Choisy, it relied on the implied spatiality of Durand.[15] Axonometric was used heavily between 1914 and 1935, which coincides with my main period of study. Although this was not a focus

[13] Alberto Pérez-Gómez, *Architecture and The Crisis of Modern Science* (Cambridge, MA: MIT Press, 1985). Alberto Pérez-Gómez and Louise Pelletier, *Architectural Representation and the Perspective Hinge* (Cambridge, MA: MIT Press, 2000).

[14] Pérez-Gómez, *Crisis*, 308.

[15] Jonathan Crary examines similar notions on the role of the observer in the period between the classical model of vision, based on the Camera Obscura (seventeenth- and eighteenth-century), and the development of photography and cinema. He plumbs this through an investigation of optical devices, most importantly the stereoscope. This period of modernity, he argues, is fundamental to a remapping of the body and a dislocation of sight from the concrete world to the subjective body. Once vision was relocated it "belonged to time, to flux, to death" and thus questions authority, identity, and universality. With this break came a profound instrumentalization of the eye under the imperatives of capitalist modernization (abstraction and proficiency of exchange). Thus two paths are irrevocably intertwined - one of sovereignty and the other an instrumentalization of vision. Accordingly, "any effective account of modern culture must confront the ways in which modernism, rather than being a reaction against or transcendence of the processes of scientific and economic rationalization, is inseparable from them." Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1991).

of my work, it supported my reading of the Purists' interest in post-Cubist geometry, as well as rationalization more generally.

I also investigated the modern idea of a house as a *machine à habiter*. The central reference here was the *cinq points d'une architecture nouvelle*, presented by Le Corbusier and Pierre Jeanneret in their book on the Weissenhof Siedlung in Stuttgart (1927). In *Modern Architecture: A Critical History*, Kenneth Frampton summarizes the five points: the *pilotis* (elevating the mass off the ground); the free plan (*le plan libre*, achieved through the separation of the load-bearing columns from the walls subdividing the space); the free façade (the corollary of the free plan in the vertical plane); the horizontal sliding window (*la fenêtre en longueur*); and the roof garden (*les toits-jardins*, restoring, supposedly, the area of ground covered by the house).[16] Le Corbusier published another version of the five points in *L'Architecture vivante* (May 1927), edited by Jean Badovici (Eileen Gray's partner at the time), which also contains a sixth point: *suppression de la corniche*.[17] In *Modern Architecture* and *Essays in Architectural Criticism*, Alan Colquhoun correctly points out that these five points overturned existing academic practices.[18] Each of the points was based on a freedom granted by technology and opposed a particular element of the tradition (e.g., *pilotis* oppose the classical base of a building). This was not an abandonment of the past, but a "purification" of architectural tradition.

In contrast, Werner Oeschlin's essay, "Cinq pointes de l'architecture," regards the five points historically as Le Corbusier's "only self-contained normative work" that "attends to practical questions of architectural design, and intends to establish a theoretical basis and codification."[19] He argues that they apply lessons from the *Dom-Ino* system to the Maison La Roche (a prime example of the use of *tracés régulateurs*) in

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[16] Kenneth Frampton, *Modern Architecture: A Critical History* (New York: Thames & Hudson, 1992), 157.
[17] Le Corbusier, "Où en est l'architecture?" in *L'Architecture vivante: 1926–1927* (New York: Da Capo Press, 1975), 7–11.
[18] Alan Colquhoun, *Modern Architecture* (New York: Oxford University Press, 2002). Alan Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historical Change* (Cambridge, MA: MIT Press, 1985), 51. He argues that the six points are a criticism of tripartite building, as found in Louis Sullivan, for example.
[19] Werner Oechslin, "Les Cinq Points d'une Architecture Nouvelle," *Assemblage* 4 (Oct. 1987): 82–93.

order to codify experience, although I disagree that they satisfy the "classical theory" summarized in the Vitruvian triad. Taking into account Colquhoun's assessment, I would agree with Mary McLeod's analysis that the five points stress the functional benefits of new construction.[20] Ultimately, the points suggest a causal development: from a construction system of concrete slabs and columns to a strategy for open planning and an aesthetic of crystalline geometry.

In his influential *Theory and Design in the First Machine Age*, Reyner Banham explores how the architectural attitudes, themes, and forms of the Machine Age relied on nineteenth-century precursors.[21] He claims that the original machine concept failed because it involved something "irrational." He argues that the architects of the 1920s still followed classical conditions by employing Greek "aesthetics" (Phileban solids, Albertian coherence, and harmony of proportions). He believed that the machine aesthetic did not fully grasp the lessons of the machine and therefore retained traces of older models, including formal principles from the Beaux-Arts. His analysis mentions but fails to elucidate the literary heritage of the machine age. He also argues that architecture and technology may be "incompatible disciplines," and that if architects attempt to run with technology, they will be in "fast company." His technological determinism promoted a rather melodramatic and dualistic impasse. His stance was too reductive, as circumstances were more complex.[22] The narrowness of his utility-versus-aesthetics polemic is also something I am working to overturn.

The question of aesthetics is addressed in other works, although it is important to recognize how their iconographic interests were part of calculative thinking. In this area, I studied Purism's hygienic response to Cubism and its influences on architecture. The

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[20] Mary McLeod, "'Order in the details', 'Tumult in the whole'? Composition and Fragmentation in Le Corbusier's Architecture," in *Fragments: Architecture and the Unfinished: Essays presented to Robin Middleton*, ed. Barry Bergdoll and Werner Oechslin (New York: Thames and Hudson, 2006), 291–322.

[21] Reyner Banham, *Theory and Design in the First Machine Age* (Cambridge, MA: MIT Press, 1980).

[22] Reyner Banham, "Machine Aesthetic," *The Architectural Review* (April 1955): 225–8. Banham argues a similar line that the machine metaphor was a justification for an aesthetic agenda. What belies Le Corbusier's argument, he says, are the images in *Vers une architecture* of custom cars (not mass-produced vehicles), compared justifiably to the Parthenon. The error, he says, is shown by an exploration of "utility" as constituted by engineer's design of vehicles (Ford Co.) for highest sales volume and marketability.

connection between Cubism and modern architecture was likely a topic in artistic circles during the 1920s, but did not appear in publication until Sigfried Giedion's *Space, Time and Architecture*.[23] He regarded Le Corbusier's five points as a "liaison between contemporary architecture and contemporary construction."[24] In doing so, he rearranged the order of Le Corbusier's five points and tried to show how they are based on new conceptions of space that "grew out of [a rationalization of] cubism." This was based on his reading of Cubist "space-time," expressed architecturally through planarity, transparency, and multiple views. Le Corbusier had described his work mainly as volumes until Giedion emphasized space. Following Giedion, Colin Rowe and Robert Slutzky described how Cubism's "spatial order" can be translated phenomenally into architecture, where one would have a "simultaneous perception of different spatial locations."[25] However, as Bruno Reichlin observes, the closest that Le Corbusier came to this was "enjambments" (the slipping of a wall between two functional spaces), which recalls the Purist "marriage of contours."[26] I also reviewed several other informative works on Purism but do not have the space here to discuss them.[27]

As Colquhoun points out in *Modern Architecture*, Le Corbusier's theorization of Purism rejected the "accidental" aspects, fragmentation, and deformations that Cubism had highlighted. Instead, he promoted general laws based on Platonic forms. A process similar to "natural selection" supposedly would result in a new version of the everyday. A building exterior, for example, would become an *objet-type*, akin to those found in Purist paintings and inside buildings. Although this discourse promoted an idealized Cartesian ground, it was muddied by Le Corbusier's frequent claims for poetry and spiritualization.

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[23] Sigfried Giedion, *Space, Time and Architecture: The Growth of a New Tradition* (Cambridge, MA: Harvard University Press, 1959).
[24] Ibid., 513.
[25] Colin Rowe and Robert Slutzky, "Transparency: Literal and Phenomenal," *Perspecta* 8 (1963): 45–54.
[26] Bruno Reichlin, "Jeanneret-Le Corbusier, Painter-Architect," in *Architecture and Cubism*, ed. Eve Blau and Nancy J. Troy (Montreal: Canadian Centre for Architecture; Cambridge, MA: MIT Press, 1997), 205–7.
[27] Blau and Troy, *Architecture and Cubism*; Carol S. Eliel, *L'Esprit Nouveau: Purism in Paris 1918–1925* (New York: Harry N. Abrams, 2001). Christopher Green, *Leger and the Avant-Garde* (New Haven: Yale University Press, 1976).

Despite the general correspondence between the Cartesian (and Saint-Simonian) ground of the Purist work and its associated architecture, this is complicated by a number of issues.[28] One essay that discusses this is "The Fiction of Function" by Stanford Anderson.[29] He argues that function did not demarcate Modernism from Post-Modernism, and that this simplification was used to reduce Modernism so that it could be easily overcome. He claims that modern functionalism was a fiction. By "fiction," he means both an error in interpretation and the richer notion of fiction as a story. It is important to recognize that no description of function can encompass even the most basic human activities. He also notes that function cannot be translated automatically into architectural form. Paradoxically, descriptions of function that are more thorough are less likely to hold true. "It would be difficult, if not impossible, to find an artefact, simple or complex, that has not functioned in unanticipated ways." The Frankfurt Kitchen, for example, which relied on Taylorist principles to reduce movement to a minimum, certainly would have been violated by the intrusion of other conditions of life. While attempting to avoid the mistakes above, I will show how the primary fiction of certain works is nonetheless technological. Anderson did not recognize that fiction itself is not neutral and that it can promote or resist technological practices.

For a more general understanding of this milieu, Jean-Louis Cohen's *Scenes of the World to Come* was informative.[30] He traces the European assimilation of American models of ideation (if not myth), starting with the World's Columbian Exposition (1893). This event had a profound impact on the political, economic, and artistic culture in European architectural circles. Of course, the machine was part of the quickening pace of production and life in general at this time. The machine also was associated with the

[28] For instance, Tim Benton argues, counter to Banham's reading of the technological purity of Futurism, that Le Corbusier retained a "Futurist taste for the Spiritual exoticism of high performance racing cars and their symbolic sisters, the Grand Tourers. The legacy of Futurism sealed a romantic attitude towards cars and aeroplanes into the Modern Movement whose repercussions are still being felt today." While this certainly muddies the issue, this "romantic attitude" seems to be mainly a reduction of the beautiful to the aesthetic. Tim Benton, "Dream of Machines: Futurism and l'Esprit Nouveau," *Journal of Design History* 3, no. 1 (1990): 19–34.
[29] Stanford Anderson, "The Fiction of Function*," Assemblage* 2 (Feb. 1987): 18–31.
[30] Jean-Louis Cohen, *Scenes of the World to Come: European Architecture and the American Challenge 1893–1960* (New York: Flammarion, 1995).

Gesamtkunstwerk, as the coherence and temerity of factories and grain silos were impressed both visually and ideologically upon the imagination.[31]

Cohen also elaborates on how the factory production principles of Taylor and Ford quickly spread into architectural circles. Taylorism was a systematic and rational series of management techniques to reduce waste in work habits.[32] As early as 1916, Le Corbusier expressed his initial reservations, calling Taylorism a "horrid, inevitable life of the future."[33] As Cohen explains, this system still led to the reorganization of work on construction sites and changed the nature of interior design. These notions of mass-production led Le Corbusier to the machine-house in hopes of a "technocratic reform." He also used it as a basis for urban form (e.g., new networks with lower costs) and the automated assembly of standardized elements (e.g., in his Pessac housing). Le Corbusier even posed the question, "Is Descartes American?"

PHILOSOPHY

Philosophical questions in my project attempt to understand technology from a phenomenological position. The aim is to elaborate on what it means for the "machine for living in," the five points, and other architectural issues to be rooted in a Cartesian world view. To do this, I am developing a working definition of technology and recognizing its biases. Although my sources disagree on certain issues, there is an underlying confluence that I am trying to draw out. A general philosophical reading, *The Technological Society*

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[31] "The failure of the *Gesamtkunstwerk* to reach wholeness, so explicit particularly in the twentieth century, was caused mainly by the fact that the *Gesamtkunstwerk* became an aesthetic utopia and dream, a dream without presence." Dalibor Vesely, "The Nature of the Modern Fragment and the Sense of Wholeness," in *Fragments*, ed. Bergdoll and Oechslin, 53.

[32] These principles are analyzed in Mauro F. Guillén, *The Taylorized Beauty of the Mechanical: Scientific Management and the Rise of Modernist Architecture* (Princeton: Princeton University Press, 2006). Beyond the technical claims, the author argues that scientific management offered an ideological call to order through a scientific manner of working and organization that would be extended to design and building. Guillén contends, "If scientific management argued that organizations and people in organizations worked, or were supposed to work, like machines, European modernism insisted on the aesthetic potential of efficiency, precision, simplicity, regularity, and functionality; on producing useful and beautiful objects; on designing buildings and artefacts that would look like machines and be used like machines; on infusing design and social life with order." Guillén, *Taylorized Beauty,* 14.

[33] Cohen, *Scenes*, 74.

by Jacques Ellul, was helpful.[34] It is a wide-ranging study of the massive impact that technique ("the one best way") has had on humans and civilization. He posits that technique "integrates" the machine into the world and enables it to become "a means of apprehending reality." It is a manner "of acting on the world which allows us to neglect all individual differences, all subjectivity."[35] Other characteristics include rationality, artificiality, automatism, self-augmentation, universalism, and autonomy. Ultimately, he argues, this places man in a condition of homelessness. From its beginnings in magic to its present domination of all aspects of civilization, he shows that technology has no plan and is always accidental, even though one can feign control over it. Ellul's book is provocative but seems to offer a bleak vision, with little escape; still, he concludes that "we must find solutions to the problems raised by techniques, and only through technical means can we find them."[36]

Lorenzo C. Simpson's *Technology, Time and the Conversations of Modernity* proposes that technology embodies our apprehension about finitude.[37] It "refers to that set of practices whose purpose is, through ever more radical interventions into nature … systematically to place the future at our disposal."[38] He shows how this attitude affects our understanding of action and our ability to perceive meaning, as opposed to values. Simpson's main aim is to criticize technological rationality in a way that does justice to our contemporary situation. Along the way, he examines philosophical nihilism and the relation between postmodern sensibilities and the technological world. Perhaps most importantly for my thesis, he discusses the toll of the modern scientific and technological ideals on our notion of temporality and how it has "domesticated" the future, but not "*qua* future." The controlled temporality of technology seeks results but alienates humans in the process, marginalizing what we cannot control.

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[34] Jacques Ellul, *The Technological Society*, trans. John Wilkinson (New York: Alfred A. Knopf, 1970).
[35] Ibid, 131.
[36] Ibid, 340.
[37] Lorenzo C. Simpson, *Technology, Time and the Conversations of Modernity* (London: Routledge, 1995).
[38] Ibid., 24.

"The essence of technology is by no means anything technological," Martin Heidegger argues in "The Question concerning Technology."[39] This understanding enabled him to move technology out of the domain of technological experts who dismiss discussions of technology that are non-scientific. His "questioning" was meant to expose previously unexamined premises of Western technology. To do this, he turned to the ancient Greeks, arguing that the essence of technology originated long before "concrete" forms of technology emerged in the eighteenth and nineteenth centuries. Even our efforts to control technology, so that it does not destroy us, rely on an earlier "instrumental conception" of technology. His position was developed further in his essay "Overcoming Metaphysics," in *The End of Philosophy*.[40] "The will to mastery becomes all the more urgent the more technology threatens to slip from human control."[41]

As a human activity, technology is a means to an end. It is by definition "instrumental," intended to get things done. Unlike poetics, modern technology challenges the world by regarding it as a "standing reserve." "Enframing" [*Ge-stell*] is the essence of modern technology. In enframing, man is also secured as a reserve. Whether modern technology is a "supreme danger" or a "saving power" seems to depend on our ability to witness, as "man becomes truly free only insofar as he belongs to the realm of destining and so becomes one who listens, though not one who simply obeys." The key, it seems, is in its "essential unfolding." In other words, the essence of technology must be interpreted as given by something outside humans and ultimately beyond one's will.[42] Thus, man must think about and question this essence differently. The realm in which it can be questioned is art.

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[39] Martin Heidegger, "The Question Concerning Technology," in *The Question Concerning Technology and Other Essays*, trans. William Lovitt (New York: Harper & Row, 1977).

[40] "The basic form of appearance in which the will to will arranges and calculates itself in the unhistorical element of the world of completed metaphysics can be stringently called 'technology.'" Martin Heidegger, "Overcoming Metaphysics," in *The End of Philosophy*, trans. Joan Stambaugh (Chicago: University of Chicago Press, 2003), 93.

[41] Heidegger, "Question Concerning Technology," 289.

[42] Michel Haar, *The Song of the Earth: Heidegger and the Grounds of the History of Being*, trans. Reginald Lilly (Bloomington: Indiana University Press, 1993). Haar is helpful, but due to a lack of space here, I will not review this book in full. I should say that his reading of Heidegger's work on technology greatly aided my understanding by highlighting a number of issues, including the circularity of technology and more importantly the "danger" of technology. This is a condition that may not willfully alter but something we must "keep our distance from" while letting it be received in its own "essence."

As noted by Heidegger and Vesely, technology is associated with the will-to-will. Hannah Arendt's book, *Willing: The Life of the Mind*, offers additional insight.[43] It examines the historical birth and development of the will. She finds the will pre-figured in Aristotle's split between lower things that were subject to chance [*kata symbebekos*; in contemporary terms, the accidental or contingent] and higher things that were not [*hypokeimenon*]. All things in the sublunar world were placed in the lower, non-essential realm of accidentals; however, believing that everything comes from something, at least potentially, the Greeks had nothing that resembles the modern free will. She says that it was not until "the last stage of the modern age [the turn of the nineteenth century] that the Will began to be substituted for Reason as man's highest mental faculty."[44] In the modern sense, the will is defined as "acts about which I know that I could as well have left them undone."[45] This associates the will with the contingent and accidental, projecting this human faculty into the future. With the modern belief that progress is a product of humankind, the will comes to the foreground. She notes that this was problematic for Nietzsche and Heidegger. Both tried to deal with it: respectively, through "eternal return" and "the will not to will." For my present study, Arendt's historical analysis provides insights into the modernist project as a product of technological ideals.

Another relevant topic is the tradition of rhetoric, understood as more than just flowery and excessive speech. Ernesto Grassi's *Rhetoric of Philosophy* is important for me in this regard.[46] He argues for the primacy of rhetoric *as* philosophy, stating that rhetoric is not just a persuasive shaping of content after the fact, but the very basis of rational thought. Following Aristotle, rational thought is founded on the validity of a premise from which rationally deducible truths are shown to be true through demonstration by sufficient reason (apodictic) or the "logic of the proof." This implicitly eliminates rhetoric (in the modern sense) and history from claims to truth, as they are influenced by pathos and feeling. It is through *ingenium* and finding similarity in difference that we decipher the world in order to know the world. He argues that

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[43] Hannah Arendt, *Willing: The Life of the Mind*, vol. 2: *Willing* (New York: Harcourt Brace Jovanovich, 1978).
[44] Ibid., 20.
[45] Ibid., 14.
[46] Ernesto Grassi, *Rhetoric of Philosophy: The Humanist Tradition* (University Park, PA and London: Pennsylvania State University Press, 1980).

"metaphor is, therefore, the original form of the interpretative act itself, which raises itself from the particular to the general through representation in an image, but of course, always with regard to the importance of human beings." So, rhetorical speech (indicative and emotive) is

> immediately "showing" – and for this reason "figurative" or "imaginative," and thus in the original sense "theoretical" [*theorein* – i.e., to see]. It is metaphorical, it shows something which has a sense, and this means that to the figure, to that which is shown, the speech transfers [*metapherein*] a signification; in this way the speech which realizes this showing "leads before the eyes" [*phainesthai*] a significance. This speech is and must be in its structure an imaginative language.[47]

To investigate the notion of play, one should begin with *Homo Ludens* by Johan Huizinga.[48] He argues that "culture is play"; however, in modern life, play is often disguised or dismissed as "puerile."[49] Contending that "all play means something," Huizinga traces it across diverse fields of action, including law, warfare, poetry, philosophy, and art. He defines play as

> a free activity standing quite consciously outside "ordinary" life as being "not serious," but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest. From it no profit can be gained. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. It promotes the formation of social groupings, which tend to surround themselves with secrecy and to stress their difference from the common world by disguise or other means.[50]

It is further characterized as a state of "rapture," in accordance with the "sacred" or "festive." It can be found in almost anything with an agonistic function, such as debates and technical competitions. These agonistic events exude tension and uncertainty, wondering, "Will it come off?" He excludes architecture from play due to its serious need to fulfill a function, along with its monetary commission, but acknowledges its reception and integration into a festival. As George Steiner says in the introduction, "numerous

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[47] Ibid., 20.
[48] Johan Huizinga, *Homo Ludens: A Study of the Play Element in Culture* (New York: Harper and Row, 1970).
[49] For concise accounts of how *lusus* [joke, play, sport] in nature and science was excluded as a means to true knowledge, see Paul Finlen, "Jokes of Nature and Jokes of Knowledge: The Playfulness of Scientific Discourse in Early Modern Europe," *Renaissance Quarterly* 43, no. 2 (1990): 292–331.
[50] Huizinga, *Homo Ludens*, 13.

points of etymology and Huizinga's attempts to show the primacy of play in diverse linguistic forms are amateurish or erroneous." Nevertheless, it is a useful starting point for further research into play. It discusses many relevant points for my study, particularly play's relation to boundaries, time, sophistry, and the uncertain.

Within this section, the two most significant works are by the philosopher Hans-Georg Gadamer. The first is *Truth and Method*, which sets out a critique of aesthetic consciousness and examines the lived dimension in the experience of art.[51] This led him to question the relation between truth and the work of art. For Gadamer, art is not about a subject grasping or possessing an object, but about the understanding that happens during their encounter. The truth of art is an event in which one is taken up. To understand this, he takes "play [*spiel*] as the clue to ontological explanation." Recognizing art as a form of play enables him to understand the dynamic of human existence. "When we speak of play in reference to the experience of art, this means neither the orientation nor even the state of mind of the creator or of those enjoying the work of art, nor the freedom of a subjectivity engaged in play, but the mode of being of the work of art itself."[52] Play is not constituted by the subject as an attitude or state of mind, nor by the work of art as an object, but is a "to-and-fro movement that is not tied to any goal that brings it to an end." In play, one is absorbed into the freedom of its circular motion and repetition while the self is put aside. Play has boundaries that may change during the course of events; however, one must not become a spoil-sport or the enchantment of play would be lost. More importantly, play is a self-representation whereby something is represented and something is recognized. This is not a closed world; it is open to the participation of the actor and the audience. He also speaks of the transformation of play into structure. When this happens, the thing becomes wholly something else; "what represents itself in the play of art, is the lasting and true." In this way, more is brought to light: One is able to recognize truth.

The second work by Gadamer, *The Relevance of the Beautiful and Other Essays*, takes up the question of the work of art in a more conversational manner than *Truth and*

[51] Hans-Georg Gadamer, *Truth and Method* (London: Sheed and Ward, 1985).
[52] Ibid., 101.

Method.[53] Here he argues for the contemporary relevance of certain notions, including *mimesis*, participation, play, the symbol, festival, beauty, and truth. In a series of short essays, he challenges the "aesthetic differentiation" of classical aesthetics (e.g., Kant and Schiller) through the "non-differentiations" that are enacted in the ideas above. Instead of reducing the work of art to pure aesthetics, he describes "what actually happens when we undergo an experience with a work of art," as Robert Bernasconi says in the book's introduction.

Gadamer addresses the question of how to interpret works of modern art that appear to lack subject matter. He does this to show that the notions above are as valid today as they were in the ancient realm of *mimesis*, even though modern art is often seen as a rupture with the past. Particularly relevant are his discussions of play, symbol, and festival, in which he shows that participation is essential in art. He also discusses the idea of *mimesis* as "knowledge," noting that the key element in *mimesis* is "recognition" and "a presentation of order." "There is in every work of art an ever new and powerful testimony to a spiritual energy that generates order." Consequently, art has a privileged relation to truth [*alethia*], understood as revealing, unconcealing, and manifesting. Further, "the word of the poet is autonomous in the sense that it is self-fulfilling. The poetic word is thus a statement in that it bears witness to itself and does not admit anything that might verify it." Unfortunately, he stops without going very deeply into any of these concepts, leaving us with a general sense of his orientation but with many questions.

ALFRED JARRY AND PATAPHYSICAL MACHINES

The general topic of pataphysics and machines raises too many themes to analyze neatly, so I should begin by stating that Jarry's *Oeuvres complètes,* published by Gallimard; *The Selected Works of Alfred Jarry,* edited by Roger Shattuck and Simon Watson Taylor; and the *Collected Works* and various other publications edited by Alastair

[53] Hans-Georg Gadamer, *The Relevance of the Beautiful and Other Essays*, ed. Robert Bernasconi (New York: Cambridge University Press, 1989).

Brotochie and Paul Edwards and published by Atlas Press, offer important English introductions to all of the works I address.[54] There are too many to review.

Biographical information and some critical insights came from various sources that have been more or less helpful, including Noel Arnaud, *Alfred Jarry, d'Ubu Roi au Docteur Faustroll*; Linda Klieger Stillman, *Alfred Jarry*; Keith Beaumont, *Alfred Jarry: A Critical and Biographical Study*; Patrick Besnier, *Alfred Jarry*; and Jill Fell, *Alfred Jarry*.[55]

My understanding of Jarry's pataphysics was informed by Gilles Deleuze's essay, "An Unrecognized Precursor to Heidegger: Alfred Jarry."[56] This was an early essay, prior to Deleuze's work on "desiring machines." In this essay he argues that the explicit object of pataphysics is "the great Turning": the overcoming of metaphysics. Metaphysics errs in seeing the epiphenomenon "as another phenomenon, another being, another life." Instead, the world is made of "remarkable singularities" that show themselves. This does not point to a mere phenomenon, but to Being of the phenomenon (i.e., *epiphenomenon,* which is "nonuseful and unconscious"). Being "ceaselessly withdraws," always according to its self-showing. He says that technology, as a completion of metaphysics, kills Being. For Jarry, Ubu was the outcome of "metaphysics as planetary technology … in all its sinister frenzy." Deleuze argues that Heidegger's work is actually a development of pataphysics. Jarry, like Heidegger, was concerned with "Being of phenomenon, planetary technology, and the treatment of language." Jarry's work, with its diverse machines, is typified by the bicycle and is analogous to Heidegger's "fourfold." "Being" also shows itself in technology and explains why Ubu invented pataphysics while promoting technology. "Hence the importance of the theory of science and the experimentation with machines as integral parts of pataphysics." Technology is then the site of a possible "turning." This gives way to a new relationship between man and machine, as well as between man and Being.

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[54] Alfred Jarry, *The Selected Works of Alfred Jarry,* ed. Roger Shattuck and Simon Watson Taylor (New York: Grove Press, 1965).
[55] Noel Arnaud, *Alfred Jarry, d'Ubu Roi au Docteur Faustroll* (Paris: La Table Ronde, 1974); Linda Klieger Stillman, *Alfred Jarry* (Boston: Twayne, 1983); Keith Beaumont, *Alfred Jarry: A Critical and Biographical Study* (Leicester: Leicester University Press, 1984); Patrick Besnier, *Alfred Jarry* (Paris: Fayard, 2005); and Jill Fell, *Alfred Jarry* (London: Reaktion Books, 2010).
[56] Gilles Deleuze, "An Unrecognized Precursor to Heidegger: Alfred Jarry," in *Essays Critical and Clinical* (Minneapolis: University of Minnesota Press, 1997), 91–8.

There are several reasons why I question many of the notions in "Superliminal Note" by Roger Shattuck.[57] Pataphysics, he argues, has "always existed," and its chosen vessel was Jarry. He then "attempts the self-contradictory task of defining 'Pataphysics in non-pataphysical terms" through seven postulates: 1. "'Pataphysics is the science of the realm beyond metaphysics" which is place everyone inhabits. 2. "'Pataphysics is the science of the particular, of laws governing exceptions." Every event is its own law. It "attempts no cures, envisages no progress, abhors any 'improvement' in the state of things, and remains innocent of any message." 3. "'Pataphysics is the science of imaginary solutions." Science of the general (assumed cause/effect) is still poetic and imaginative. "Truth is an imaginary solution." 4. "For 'Pataphysics, all things are equal." This means that "universal equivalence and the conversion of opposites" make the world into singularities. It offers no new rebellion, morality, or political reform, nor a promise of happiness. 5. "'Pataphysics is, in aspect, imperturbable." Life is absurd and thus the pataphysician marvels at its humour quietly in an "ironic conformity." 6. "All things are pataphysical; yet few people practice 'Pataphysics consciously." There is only a difference in "state" between pataphysicians and regular people, and "being aware of its own nature, can enjoy the spectacle of its own pataphysical behaviour." 7. "Beyond 'Pataphysics lies nothing; 'Pataphysics is the ultimate weapon." One is trapped by our scientific and technological knowledge and "in 'Pataphysics resides our only weapon, our only defense against ourselves." "'Pataphysics, then, is an inner attitude, a discipline, a science, and an art." Although I agree with much of what Shattuck says, I disagree that Jarry's science is indifferent. It does posit an order and seeks meaning and thus change. In short, all things are not equal. Also, I would debate his notion that pataphysics is merely a subjective attitude.

Shattuck's *The Banquet Years* covers Jarry, Satie, Apollinaire, and Rousseau as exemplars of the period.[58] In particular, the chapters "Suicide by Hallucination" and "Poet and Pataphysician" are a good introduction to Jarry, his work, and the general disposition of the era. Shattuck says that Jarry's science is "central to all of his work." He also identifies the positive side of his work, including *horrifiquement beau* (the

[57] Roger Shattuck, "Superliminal Note," *Evergreen Review* 4, no. 13 (May–June 1960): 24–33.
[58] Roger Shattuck, *The Banquet Years: The Origins of the Avant-Garde in France, 1885 to World War I* (New York: Vintage Books, 1968).

monstrous), the circle, humour, and masks. He argues that Jarry aimed beyond conceptual limits without forsaking reason, although his work "abandons optical perspective" and embraces the mask because only the mask can present the true.

Keith Beaumont's *Alfred Jarry: A Critical and Biographical Study* is a rather humourless but well researched biography that covers too much ground to review in its entirety.[59] Linda Klieger Stillman's *Alfred Jarry* concentrates on "images, symbols, and signs: their significance and their inter-relationships."[60] Noting a lack of "plot" and "intertextuality" in Jarry's condensed texts, she attempts to reorganize them to "recuperate the text's coherence and knowledge." This is a standard tactic in Jarry scholarship. Her book includes chapters on Jarry's biography, pataphysics, Ubu, the notion of the double and nothing, and love. She gives a clear, thoughtful reading of Jarry's work, understanding his pataphysical science as both an attitude and a lived reality. She also notes the spatial and concrete qualities of Jarry's play of language and the positive potential in his poetic commentary and criticism. This is particularly strong in the sections on *Faustroll*. At times she relies on a psychoanalytic reading to address the biographical collapse of Jarry and his work, although this only obscures the subject. (For example, Dr. Faustroll "accomplishes a fortuitous sublimation of dangerous drives, constructing an Absolute out of a shattered psyche.") Much of this reading seems forced, so it detracts from an otherwise astute study.

Among the most important publications for my study is Marco Frascari's *Monsters of Architecture: Anthropomorphism in Architectural Theory*, which argues that architecture is a monster on the margins of spatial configurations, activated and enriched by its metonymic relation to the body. He uses hermeneutics and semiotics to examine the notion of "monster," which comes from the Latin verb *monstrare* 'to show or to point out', which in turn derives from the verb *moneo* 'to make', 'to think'.[61] Remaining

[59] Keith Beaumont, *Alfred Jarry: A Critical and Biographical Study* (Leicester: Leicester University Press, 1984).
[60] Stillman, *Alfred Jarry*.
[61] Daston and Park, *Wonders and the Order of Nature*. In their brilliant study from the Middle Ages to the Enlightenment, they show the devaluation of wonder from serious philosophic consideration: chance, the accidental, and unforeseen events to which *mirabilia*, monsters, and conjuring tricks were connected to the passions and wonder. These were often seen as operating beyond the natural. In fact, the praeternatural realm is where they came to be located: beyond the natural course but without divine aid (supernatural).

largely within an Italian context, he looks for a way to make "nontrivial" buildings. This wide-ranging work is somewhat opaque, although "the intent of this book is to suggest a possible critical approach to architectural projects, a method based on [Vico's] imaginative universals." He argues that a non-normative work should account for the metonymic body as the basis of the architect's *auctoritas* to make "demonstrations" during which the invisible is made visible. This involves a "Janus-like conception of technology" that includes construction ("the logos of *techne*") and construing ("the *techne* of logos"), which is resolved in the detail (discussed in Frascari's earlier essay, "The Tell-the-Tale Detail"). This is an "allotropic ideation" of architectural representation as a "technological image" that does not separate the instrumental from the symbolic representation. He briefly discusses Alfred Jarry's time machine in relation to the work of Carlo Scarpa. He also touches on the role of pataphysics and its articulation of a "technology of play" that approximates and suggests rather than defines and controls.[62]

Another highly influential work is *Le macchine celibi / The Bachelor Machines,* edited by Harald Szeemann to accompany an exhibition at the Kunsthalle in Bern in 1975.[63] It consists of a series of essays, some more pertinent than others, with numerous illustrations. It explores work by many artists and writers, including Jarry, and ties them to various contexts and themes: for example, the definition and workings of machines, a historical analysis of the relation between man and machine, the machine as an inverted theology, its relation to the Greek sophists, anamorphosis, the unconscious, and alchemy. The most salient essay is Michel Carrouges's "Directions for Use."[64] He proposes that these machines are extravagant, with "complicated means, contrary to practical and useful effectiveness." They engender "exquisite and horrid effects of amazement." The notion that they should be "materially feasible" does not matter because they are "mental machines." The imaginary workings of these machines produce "real movement[s] of the

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[62] I also reviewed Marco Frascari's essay, "Heroic and Admirable Machines," *Poetics Today* 10 (Spring 1989): 103–24. This work touches on similar notions as the above book. In a condensed format, however, he draws on more ancient sources with respect to a history of machines. Thus it is also helpful in the introduction above.
[63] *Le macchine celibi / The Bachelor Machines*, ed. Harald Szeemann (New York: Rizzoli, 1975).
[64] Michel Carrouges, "Directions for Use," in *Le macchine celibi / The Bachelor Machines*, ed. Szeemann.

mind." He argues that they are "diametrically opposed to that of anticipation." "Every bachelor machine is first of all a pataphysical machine, or a patamachine."[65] They also conjoin sexual and mechanical configurations (often splitting male and female). Although I tend to agree with Carrouges, his reading is too homogeneous. At times it forces Jarry under a Duchampian lens. Some of Jarry's patamachines are not terribly complicated, nor do they enact the male/female divide. (Dr. Faustroll's skiff is perhaps neither.) A preoccupation with Malthusianism (population control) is present only in some (e.g., the debraining machine); they seem to be more about destabilizing "universal assent" (bourgeois life, positivism, technology, etc.) and engaging eros and death as ways of resisting this homogenization.

Also by Michel Carrouges is the book *Les machines célibataires*, which adopts the term that Marcel Duchamp coined to refer to his *Large Glass*. Carrouges argues that these types of machines define modern myths that originated in the work of Western writers and artists around 1850, "at the heart of the modern storm." They transformed love into a death device. "However bizarre their great games appear, nonetheless in figures of fire they reveal a major myth or inscribe a fourfold tragedy of our time: the Gordian knot of interference between the machine-isms of terror, eroticism, religion, or atheism."[66] He notes that a number of machines in Jarry's work emphasize glass. Although Carrouges illuminates shared themes of eroticism, inscription, and death, he sometimes treats these works much too similarly. As Marc Le Bot points out, one must also question whether myth is really possible, as "industrial society is no longer capable of performing the mythical function. There are no more myths capable of filling the gaps."[67]

Linda Klieger Stillman's essay "Machinations of Celibacy and Desire" is also helpful.[68] Following Carrouges, she insists that Jarry's mechanisms are both divine and monstrous because they become characters in Jarry's works. The time machine, for instance, is an "auto-mobile" that "dismantles chronological perception as it hurtles its

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[65] Ibid., 44.
[66] Carrouges, *Les machines célibataires* (Paris: Arcanes, 1954), 25.
[67] Marc Le Bot, "The Myth of the Machine," in *Le macchine celibi / The Bachelor Machines*, ed. Szeemann, 173.
[68] Linda Klieger Stillman, "Machinations of Celibacy and Desire," *L'Esprit créateur* 24, no. 4 (Winter 1984): 20–35.

pilot through an Imaginary present." It isolates us from time so that we may access the *présent imaginaire*. She also says,

> Fundamentally, the *machine célibataire* (following Deleuze and Guattari) attains its functional zenith precisely when it overloads, misfires, or otherwise breaks down. Such a model of flows, ruptures, and production pertains to the functioning of the text-machine which neither unifies nor totalizes its elements, but rather preserves difference and fragmentation, having no recourse to original or eventual totality, yet allowing communication among detached parts via aberrant paths.[69]

As they dismantle linear temporality, the absolute vantage point dissolves and the work is characterized by "irony, plural and uncertain points of view, and other indications of a fragmented and often solitary ('bachelor') subject that sabotages the modern narrator's authority." This art is not just a "*dis*placement but a *re*placement for life." Stillman's reading is compelling, but in some respects I disagree with her. Although these machines are undoubtedly open-ended, they are far from being post-modern mechanisms of endless fragmentation and deferral.

These machines depend on a number of related factors. For instance, Faustroll's skiff for his journey from Paris to Paris is explored by Ben Fisher in *The Pataphysician's Library* through the works listed in the Faustroll narrative.[70] Stillman's essay, "Physics and Pataphysics: The Sources of Faustroll," explores this work and the scientific resources and context that surround Jarry's "recycling," declaring that any study without this would be reductive.[71] This "raw material" (particular the British scientists Crookes,

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[69] Ibid., 23–4.

[70] Ben Fisher, *The Pataphysician's Library* (Liverpool: Liverpool University Press, 2000). This is the first full study on the *livre pairs* from the Faustroll narrative. It is meant as a sample reading of the literature of the Belle Époque and to contextualize Jarry's work. He takes Jarry's equivalent books as the outline of his study. He moves on to examine the varied literary trends of this period. Part One is divided into Pictures and Books from the list. It examines Jarry's intentions and choices as well as the editing of the different editions of Faustroll. Fisher understands the *livre pairs* as an "intellectual game" intending to educate, provoke, divert, and entertain. He uses this understanding to ground Part Two of the study. In Part Two, he looks at "Faith and Esoterica: Symbolist Thought" and "Heroes: The Symbolist Ubermensch." He demonstrates the hermetic underpinnings of Symbolism and Jarry's work. He also clearly exhibits Jarry's lead characters as "heroes" and explores their characteristics at great length. I believe he is at his best when showing that Jarry is part of the larger Symbolist context and rooted in the underlying characteristics of this period.

[71] Linda Klieger Stillman, "Physics and Pataphysics: The Sources of Faustroll," *Kentucky Romance Quarterly* 26 (1979): 81–92.

Kelvin, and Boys) was "recast" by Jarry into literature. She says that his ability to abstract and condense was for non-scientific purposes, "even when transcribed verbatim." Realizing that science relied on facts that were increasingly divorced from reality, he pushed further. The skiff, drawn from the work of Charles Vernon Boys, is a prime example of a technological theft. In the end, the work attempts to collapse art and life. It is not an escapist *voyage aux pays des cervelles*, as some have claimed; instead, the real and the imaginary are blurred, and participation is key.[72]

Also germane is Jill Fell's *Alfred Jarry: An Imagination in Revolt*.[73] It is a thorough and erudite examination of a large portion of Jarry's work. This heavily illustrated volume was not intended to be a general study, nor does it offer a single thesis. Instead, she studies Jarry as a writer, artist, critic, and performer, while illuminating aspects of his work that are often overlooked. His pictorial and textual work is shown as being intertwined with the Symbolists, Nabis, Pont-Avon school, and others. She shows that his early interest in marionettes, along with his ideas about gestures, outlines, and profiles, comes to characterize his visual work, as well as his novels and writing. Her book includes an exegesis of his *bâton-à-physique* as an erotic instrument that moves in a circle, denoted by the term *demi-cubiste* from Plato's *Symposium* (i.e., beings cut apart by Zeus). Fell says that this "archaic-totem" with its "plastic potential" acts as a protagonist (perhaps an acrobat) and is full of creative, erotic, and generative potential. Henri Boudillon argues that "the Form that contains and allows all reality, therefore creates it."[74] It is also *une arme offensive* in expressing an erotic turning (reconciling plus and minus, male and female, etc.). Fell argues that such ideas helped "Jarry direct … his protest at the onslaught of the machine aesthetic."

These machines are, of course, textual. Although literary theory is beyond the scope of my study, I will need to make an occasional reference to Jarry's use of language and word play. Therefore, I have reviewed Michel Arrivé's essay, "Langage et pataphysique," in which he says, "Le texte de Jarry est comparable à une machine, ou,

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[72] Roger Vitrac, "Alfred Jarry," *Cahiers Renaud Barrault* 72 (Paris: Gallimard, 1970), 27.
[73] Jill Fell, *Alfred Jarry: An Imagination in Revolt* (Madison: Fairleigh Dickinson University Press, 2005).
[74] "Ce dernier est bien la Forme qui contient et permet toutes les réalités, qui les engendre donc." Henri Bourdillon, "Ubu l'antéchrist," *Europe* 623–4 (March–April 1981): 111.

plus precisement, une batterie de machines connectées entre elles: le sens surgit de diverses façons selon le fonctionnement des machines. Machines textuelles et intertextuelles, mais aussi, indissolublement, machines linguistiques."[75] Arrivé's book, *Les Langages de Jarry: Essai de sémiotique littéraire,* also offers a careful semiotic examination of the intertextual relation of the Ubu cycle (i.e., *Ubu Roi*, *Ubu enchaîné*, *César-Antechrist*).[76] It consists mainly of a dictionary. Due to its focus, I will not review it further.

Turning now to the theatre, Martin Esslin's *The Theatre of the Absurd* presents a cross-section of the Theater of the Absurd (1940s to early 1960s).[77] The book addresses the movement's major figures and their work. Claude Schumacher's *Alfred Jarry and Guillaume Apollinaire* contextualizes Jarry's work with a brief biographical chapter.[78] Following a concise explication of several other works, he concentrates on a critical reading of *Ubu Roi* and its production, including an analysis of Jarry's dramatic theories and techniques. He claims that Jarry used a pre-cinematic form of montage (following Béhar, discussed below) that actually required him to reconsider the use of scenery due to the functional requirements that were placed on it. He also contends that Jarry, whether he knew it or not, used medieval pictorial conventions involving continuous narrative, within a large frame that can be linked to Surrealism due to its free association and dream work. "*Ubu Roi*," he contends, "is an empty work, devoid of grandeur and great ideas, and yet it is a masterpiece: it relocates the notion of play – serious play, involving life and death – at the heart of the theatrical event." In stating that Ubu's destructiveness has no positive value, Schumacher overlooks the positive side of irony and criticism.

Frantisek Deak, *Symbolist Theater: The Formation of an Avant-Garde*, argues that the significance of *Ubu Roi* extends beyond the myth of outrage during the opening night performance that was propagated by Rachilde and later by Shattuck.[79] Although *Ubu Roi* was an "early manifestations of the ironic, and in general oppositional, attitudes

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[75] Michel Arrivé, "Langage et pataphysique," *L'Esprit créateur* 24, no. 4 (Winter 1984): 7–19.
[76] Michel Arrivé, *Les Langages de Jarry: Essai de sémiotique littéraire* (Paris: Klincksieck, 1972).
[77] Martin Esslin, *The Theatre of the Absurd* (New York: Penguin, 1983).
[78] Claude Schumacher, *Alfred Jarry and Guillaume Apollinaire* (London: Macmillan, 1984).
[79] Frantisek Deak, *Symbolist Theater: The Formation of an Avant-Garde* (Baltimore: Johns Hopkins University Press, 1993).

towards bourgeois society," it should be viewed not as a prank but as a calculated event "advocating fundamental theatrical reform." Jarry's presentation and the leaflet he gave to the audience showed that he was acutely aware of what he was doing. Deak also carefully describes the sets, actors, and conflicting stories about the opening night. Deak suggests that it was actually the substitution of an actor for a door that caused the notorious riot.

Two other books discuss Jarry's techniques. The first is Henri Béhar, *Jarry Dramaturge*, which incorporates his earlier study, *Jarry: Le monstre et la marionnette* (1973).[80] It is an intelligent critical reading of Jarry's theory and techniques in relation to Symbolism. He describes the Ubu cycle, from its nascent stage at the Lycée de Rennes, with the students' puppet show parodying their inept physics teacher, to its more "mature" articulation some years later. According to Béhar, "The dramaturge Alfred Jarry maintains a close relation with pataphysics."[81] *Ubu Roi* has a *décor naïf* that can reach the universal. He also discusses Jarry's theatrical progeny. The second book is Judith Cooper, *Ubu Roi: An Analytic Study*, which carefully discusses its historical background, the general plot structure, Ubu as a comic type (more than just a parody of the physics teacher), *le parler Ubu*, and Jarry's theatrical techniques.[82] She argues that these gestures, through their simplicity, "express the very essence of humanity embodied."

There are a number of general works that help to contextualize Jarry's machines in relation to Symbolism and other movements, including Marcel Raymond, *De Baudelaire au surrealisme*; and Anna Balakian, *Literary Origins of Surrealism*.[83] Two

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[80] Henri Béhar, *Jarry Dramaturge* (Paris: Nizet, 1980).
[81] "La dramaturgie d'Alfred Jarry entretient des rapports étroits avec la pataphysics." Ibid., 184.
[82] Judith Cooper, *Ubu Roi: An Analytic Study; Tulane Studies in Romance Languages and Literature*, vol. 6 (New Orleans: Tulane University Department of French and Italian, 1974); also Keith Beaumont, *Jarry: Ubu Roi* (London: Grant and Cutler, 1987).
[83] Marcel Raymond, *De Baudelaire au Surréalisme* (Paris: Librairie José Corti, 1966). Raymond tries to systematically trace the poetic *ligne de force* from Baudelaire and the Romantic tradition through to the Surrealists. Jarry and his "pompous science" appear briefly. He says that pataphysics is an attempt to "escape from the traditional vision of things and to take up our residence in that region of the mind, where they strike us as strange and incongruous." Further, he notes Jarry's ability to utilize "a few substitutions of terms" to demonstrate the absurdity of things. He argues for Jarry's importance to the later generations and to Cubism due to their use of the world as a "pretext" in their plastic experiments. But, he says, these are "indices, [or] signs, of an absolute reality." Anna Balakian, *Literary Origins of Surrealism: A New Mysticism in French*

other studies are even more helpful. The first is in art history: Sharon L. Hirsh, *Symbolism and Modern Urban Society*, which examines how Symbolist imagery and artists were influenced by urban culture.[84] Instead of reading Symbolism as "the expression of a completely inner world of ideas and ideals," she reframes it by noting that Symbolist artists were reacting to conditions around them, particularly destructive aspects of the modern metropolis. "Although predictably conflicted, [they offered] a measured, intelligent, and quite reasoned reaction" that was neither escapist nor entirely nihilistic. Though liberal in their attitudes towards art, they were often very conservative in issues of gender and class. Although Hirsh focuses on Symbolist artists in countries other than France, her work is relevant nonetheless. The art historian Patricia Mathews, in *Passionate Discontent,* examines the relationship between gender and tortured genius. Although she focuses primarily on the conservative stereotype of the female artist as hysterical rather than creative, she looks carefully at the artistic, social, and scientific discourses at the *fin-de-siècle*. [85]

PATATECTURE

The first publication that opened my eyes to the possibility of the relation between pataphysics and architecture was *Architectural Representation and the Perspective Hinge,* by Alberto Pérez-Gómez and Louise Pelletier.[86] They argue that pataphysics can

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Poetry (London: University of London Press, 1967). She follows the shifts from the Romantics through the Symbolists and Dadaists to the Surrealists. It shows selected poets' reactions against the bourgeois, naturalism, and ultimately positivism through a close analysis of texts and major themes. She begins with what has been sustained in surrealism and then traces their prior history and continuity. Although Jarry makes fleeting appearances, the book is helpful for general orientation, as it covers ideas on chance (the will and fatalism), subjectivity/objectivity, creation/destruction, the nature of the mysterious and marvelous, absurdity, dehumanization, and memory, as well as ecapist and non-escapist tendencies, although at times it is too general.

[84] Sharon L. Hirsh, *Symbolism and Modern Urban Society* (Cambridge: Cambridge University Press, 2004).

[85] Patricia Mathews, *Passionate Discontent: Creativity, Gender, and French Symbolist Art* (Chicago: University of Chicago Press, 1999).

[86] Pérez-Gómez and Pelletier, *Architectural Representation*. René Daumal, *You've Always Been Wrong*, trans. Thomas Vosteen (Lincoln: University of Nebraska Press, 1995) says that Daumal was perhaps the first to propose the extension of pataphysics (the "great laugh") into design, through "purely human whimsy" or embellishments in manufactured objects, as well as ornamentation that will go unnoticed and gratuitous details on nondescript objects. He argues that these may have a "powerful effect against attempts to streamline work when applied to the flow

be a model for an architecture that "celebrates the sheer unlikeliness of pure theory, noting the remarkable improbability of the circumstance that we live on Earth *and* are able to see the stars. Indeed, pataphysics reminds us that the conditions necessary for life do not exclude those necessary for vision or vice versa."[87] Pataphysics "casts cosmology into art" and creates a new understanding of humankind's position in the universe through a "negative cosmology." It is "analogous to art." It is also fundamentally ironic because, unlike science, what it illuminates remains opaque. This reveals a richness in the technological world that can not be objectified. It discovers through making, approaching architecture "as a verb." As the artist's life becomes the work of art, the space between form and content becomes radicalized and the transformed self becomes more important than a final product. Pataphysics is "calculated" but is not a method or instrumental theory. Although "architectural theory *is not* science," as "a mode of production [it] *is* necessarily technology." It is a theoretical discourse and a poetic practice. Pataphysics, they argue, is linked to Heidegger's "unveiling," Benjamin's "blow," and Vattimo's "weak truth." Truth is not correspondence, however; it relies on experience and is specific to its time, place, medium, and work.

David Leatherbarrow and Mohsen Mostafavi's book, *Surface Architecture*, examines the theoretical and practical isolation of the building facade.[88] Once the external surface became independent from the structural supports, it could hang like fabric or clothing. This allowed it to employ certain spatial effects and participate more freely in its surroundings. Their book also reflects on the distinction between the facade as a system of production (e.g., a standardized curtain wall) and the facade as an engagement with traditional styles and motifs. Without falling into a simplistic debate between utility and aesthetics (as in Banham's *Theory and Design in the First Machine Age*), they offer more nuanced examples of architecture that neither ignore nor are overcome by

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of production." In other words, it is a resistance of technological reduction and perhaps if these were raised to the level of "conscious" effort, they may "open vistas onto a tremendous future." He points to irrationality at the heart of design while he rightly rejects the objectification of efficient logical and "streamlined" constructs. But Daumal too narrowly places pataphysics as a subjective view upon the given, which seems to uphold the Cartesian divide that he seeks to reject. This is further played out in his split between structure and ornament (as useless).

[87] Ibid., 296.

[88] David Leatherbarrow and Mohsen Mostafavi, *Surface Architecture* (Cambridge, MA: MIT Press, 2005).

technology. Their argument is presented most forcefully in the postscript: Because architecture "proposes" future-oriented action in the human realm, it is akin to technology. Both Heidegger and Plato's story of Prometheus point out that architecture cannot result from "technological modalities alone," and that man is not truly qualitative without art. The foresight of proposals is always doomed to fail, which in turn gives rise to an ever new task. "Every tool of language, clothing, and building is both a memory and a project, but this foresight recognizes past traces of neglect. Failure prompts projects, and every new production proposes a recuperation." Such an event would be "nonpropositional" and "improbable," while discovering unforeseen relationships and similarities deferred by technical reason. "Regardless of such a judgment [gift or punishment], this 'history' cannot be escaped," they argue. The facade is the site of this process and struggle, "as a prominently visible evidence of care (in construction and reconstruction), which in architecture can be defined as the tragic labor of reconciling foresight with neglect."

To understand Eileen Gray's work, one can start with the biography by her good friend, Peter Adam: *Eileen Gray: Architect | Designer,* which includes personal recollections and discussions of her work.[89] This book was the first extensive study of Gray's life and work, after Joseph Rykwert's earlier articles brought her back into the light.[90] Adam compiled notes from their personal conversations and carried out archival research, mainly at the Victoria and Albert Museum in London. His book traces her life from an upper middle class background in Ireland to her time in Paris and the Mediterranean. Regrettably, the text contains many oddly diffuse passages and is at times redundant. It also lacks a thorough contextualization of her work. Instead, Adam delights in the playful nuances of her multiple-use objects and in the gossip amidst her numerous contacts and her circle of friends (Jean Badovici, Le Corbusier, etc.). More relevant is

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[89] Peter Adam, *Eileen Gray: Architect | Designer. A Biography* (New York: Harry N. Abrams, 2000).

[90] Joseph Rykwert, "Eileen Grey: Two Houses and an Interior, 1926–1933," *Perspecta* 13 (1971): 66–73. "Eileen Gray: Pioneer of Design," *Architectural Review* 152, no. 910 (Dec. 1972): 357–61. His essays sparked a renewed interested in her work. To speak of both essays together, he provides a general account of her subtle critique of the "over-intellectualising of architecture." In the former, he walks us through E.1027, using a very legible axonometric drawing (contrary to the opacity that Grey seemed to relish), pointing out its general disposition, without getting into specifics.

Adam's discussion of E.1027. Though superficial at times, it does offer important information and detailed descriptions of the house. He also recounts, perhaps too dramatically, the subsequent feud over Le Corbusier's frescoes and the controversy over authorship.[91] He also points out that Gray remained interested in Alfred Jarry's *Ubu Roi* after seeing the play in Paris.

Another helpful work is Colin St John Wilson's *The Other Tradition of Modern Architecture.*[92] He posits that an "other tradition of modernism" was all but forcibly excluded during the formation of modernism proper, most palpably at the first CIAM meeting at La Sarraz in June 1928.[93] Its agenda was dominated by Le Corbusier and Sigfried Giedion, who drew up the *plan de bataille* based on a Cartesian philosophical agenda that reduced the conversation to "how" while disregarding "why." Wilson explains that this "other tradition" was a resistance movement with two primary characteristics: 1. "It was generated from within that movement rather than mounted from the outside. … It is therefore creative and offers alternative models rather than disbelief and aggression."; 2. "those models were not hypothetical but took the form of actual buildings." This other tradition, moreover, focused not on utilitarian purpose but on desire, transcending mere utility and exposing the fallacy of "art versus function" in Kantian aesthetics. It was also an architecture that responded to deep patterns of life: a fundamental *telos* via *tektonik* towards *to kalon* [beauty]. It offered a framework for action and the festive, "a theatre that makes action possible [*methexis*]," experienced

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[91] For a full account, see Beatriz Colomina, "War on Architecture: E.1027," *Assemblage* 20 (April 1993): 28–9. She discusses Le Corbusier's "colonialization" of E.1027 by the introduction of his Cabanne overlooking the house, which was an affront to Gray's original intentions. Earlier and more violently this happened with his eight large murals (*Graffite à Cap Martin*). She argues that murals for Le Corbusier were a "weapon against architecture," but the point, according to Le Corbusier, is to tell "stories." Rather, it is the endless drawings and re-drawing (based on his *Femme de la Casbah*) that are photographic in nature, she posits. They are a means of appropriation and effacing domestic space, in that they organize violence. Colomina's argument, though telling, is perhaps too extreme in its condemnation of Le Corbusier's actions (making such provocations as "no charge for the discharge"). So, it is rather non-specific with regard to the content in relation to the spaces and wall they efface and what they might tell us. Their story needs to be told beyond the psychoanalytic reductions ("child in this mural reconstitutes the missing [maternal] phallus").

[92] Colin St John Wilson, *The Other Tradition of Modern Architecture: The Uncompleted Project* (London: Academy Group, 1995).

[93] In Congrès Internationaux d'Architecture Moderne (CIAM), "congrès" means "marching together."

existentially. To articulate this, he undertakes four brief case studies, including a comparison of Eileen Gray's E.1027 and Le Corbusier's *veritable petite machine à habiter* for Mme de Mandrot. Wilson recognizes value and elegance in Gray's work, but finds Le Corbusier's work dogmatic and theoretical. I take issue with Wilson's materialistic bias, which claims that the other tradition is "not hypothetical." I also take issue with his argument that works that have been preserved are inherently more worthy than those with a shorter life span. I would agree that this other tradition is "much richer in content," but do not agree with his pronouncement that it is more "authentic."

My understanding of Eileen Gray's work is informed mainly by Caroline Constant, whose articles on Gray are included in two books. First, she edited (with Wilfried Wang) a catalogue for the exhibition "An Architecture for All Senses: The Work of Eileen Gray" at the German Architecture Museum in Frankfurt (1996) and at Harvard's Graduate School of Design (1996–97).[94] It contains a number of essays and is sumptuously illustrated. Constant presents Gray as an autodidact who questioned the hegemony of "technocratic" modernism. Precociously, Gray warned of the excesses of reductive rationalization and instead "embraced all the users' senses." As Constant points out, Gray was fascinated by the "opacity and indecipherability" of surfaces, the choreography of the body, and a merging of architecture and furniture that offered a new "ambiguity of modern spatial delimitation."

This book includes other important essays, such as Suzanne Tise, "Contested Modernisms," which contextualizes Gray's work in relation to the UAM polemic against the Bauhaus, the larger debate surround Modernist decorative arts (attributed to German sources), and conservative forces in society. She discusses the machine as a symbol of forces that subsumed the individual under materialism, capitalism, and the unemployment of artisans after the economic crash dried up the tourism and exports on which their work depended. The article "Voices Between the Lines: Talking in the Gray Zone" by Sarah Whiting interprets Gray's work as dialogical (referring to Mikhail Bakhtin and Paul Valéry) rather than dialectical. I disagree with her concept of dialogue as a "linguistic theory of relativity." I also question her contention that Gray's work "does not resolve

[94] Caroline Constant and Wilfried Wang, eds., *Eileen Gray: An Architecture for All Senses* (Tübingen: Ernst J. Wasmuth; Frankfurt am Main: Deutsches Architektur-Museum; Cambridge, MA: Harvard University Graduate School of Design, 1996).

opposites" but maintains their "relational status," referring to hybrid equipment such as the metal stepladder / seat. She says this is not resolved because they "can be one or the other but … cannot be both at once." Her position is too categorical; a coincidence of opposites does not presuppose their simultaneity. This prohibits a recognition that the transitions between elements can be significant, and that one element (e.g., the stepladder) can be imagined within the other (e.g., the seat). Constant's essay, "Architecture and the Politics of Leisure," notes that Gray was a member of a leftist group, the Popular Front, but interprets her earlier houses inappropriately as bourgeois and hedonistic, missing their inventive, subversive, and playful nature.

Constant's second book, *Eileen Gray*, is a through and wide-ranging book that contextualizes Gray's work within the broader decorative arts movement and in relation to modern architecture (particularly the discourse of Le Corbusier).[95] It follows her early work on the vacation houses to later projects with more explicit social concerns. The chapter "Nonheroic Modernism: E.1027," based on an earlier essay with the same name, carefully discusses the house in Roquebrune and how it both embraces and engages in a polemic with Le Corbusier's machine discourse. She argues that Gray adopted the Corbusian machine principles, the five points, but twisted them – in particular, the *pilotis* and horizontal windows – into variants. She regards E.1027 as a flexible construct that the inhabitant would invest with life. It is less optical than Le Corbusier's *promenade architecturale* and is concerned with "dwelling" that "keeps the pleasure in suspense." Constant briefly describes the "choreographic approach" of the house, which embraces the sensual nature of inhabitation along with the witty furniture and evocative collages that resonate with the early avant-garde. She makes insightful observations about the stencilling and the machine imagery, and rightfully points out the "value of 'play' rather than form for its own sake," contrasting Le Corbusier's well-known statements about architecture as "visual play."

[95] Caroline Constant, *Eileen Gray* (New York: Phaidon, 2007).