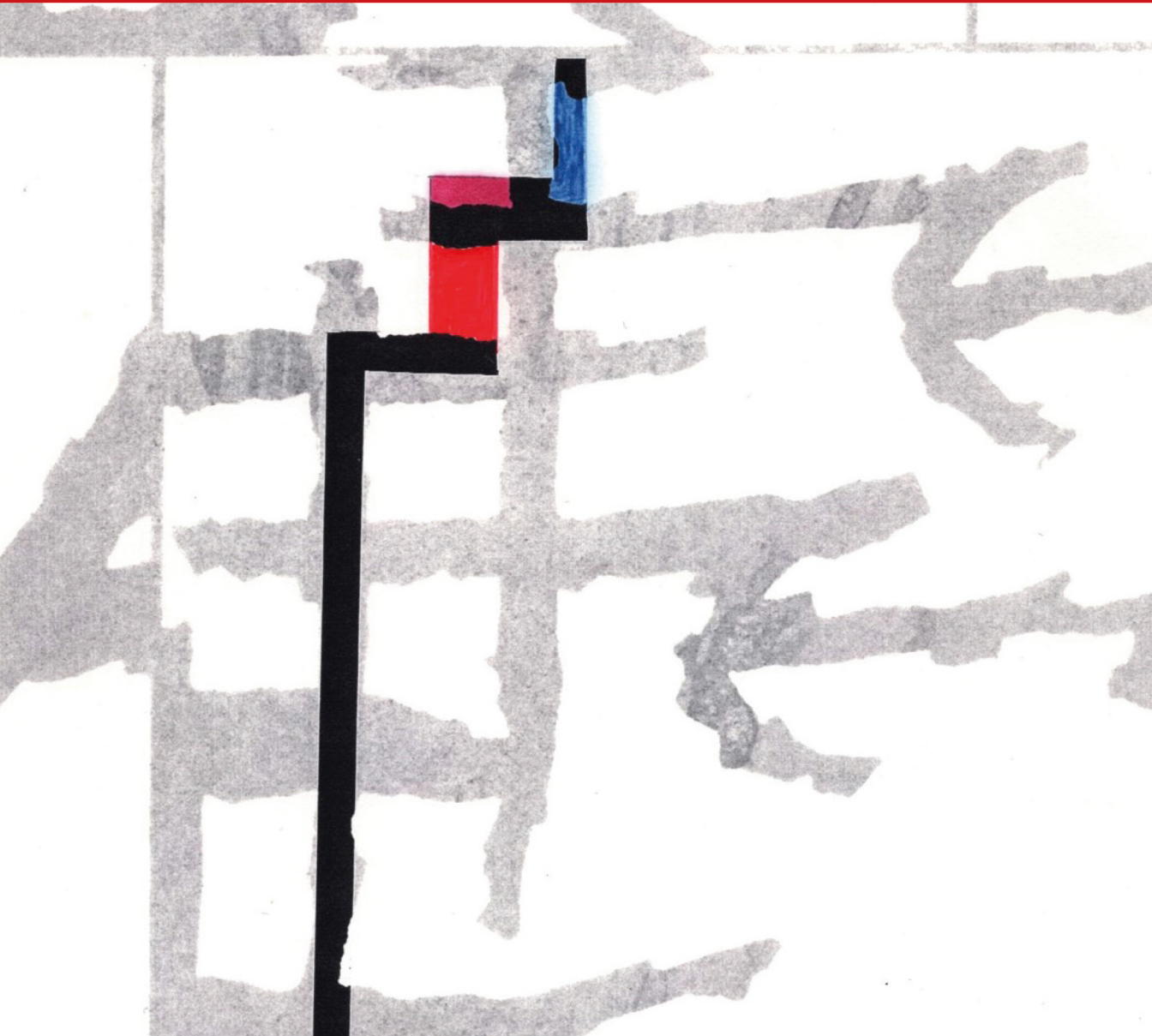


Xenakis Creates in Architecture and Music

The Reynolds Desert House

Roger Reynolds and Karen Reynolds



XENAKIS CREATES IN ARCHITECTURE AND MUSIC

Xenakis Creates in Architecture and Music describes the collaborative interaction of internationally acclaimed composer Roger Reynolds, musician Karen Reynolds, and musically inspired composer, engineer, and architect Iannis Xenakis (1922–2001) to create a house design, *The Reynolds Desert House*. The process combined aesthetics and intuition with mathematical systems, showcasing how art and science are balanced—by way of music and architecture—to address the essential technical aspects of music along with the role of emotion and energy. The book analyzes three representative chamber works and presents a trove of primary sources: letters, diaries, notes, photographs, sketches, and person-to-person conversations. What emerges are patterns of direct parallels between how Xenakis characterized the process of musical creation and his design of The Reynolds Desert House. *Xenakis Creates in Architecture and Music* is a testament to the singularly innovative and creative mind of Iannis Xenakis.

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Supplementary materials—including color reproductions of black and white images in the book—can be found at: www.rogerreynolds.com/xenakisreynoldsroutledge.html



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XENAKIS CREATES IN ARCHITECTURE AND MUSIC

The Reynolds Desert House

Roger Reynolds
Karen Reynolds

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PREFACE

For almost five decades, from our first meeting in 1964 until shortly before his death in 2001, we had an evolving relationship with the composer, writer/philosopher, and draftsman Iannis Xenakis, a strikingly original and affectively powerful musical innovator. The chronicle in Chapter 1 (Chronical of a Friendship) illuminates an arc of interaction that brought about Iannis Xenakis's creation of a house design for us intended for Southern California's Anza-Borrego desert. This chronicle traces thoughts, proposals, and exchanges as documented in letters, diaries, sketches, and person-to-person conversation. One can observe what were at first primarily musical encounters develop from a distant and occasional nature toward a warm, responsive, and more continuous interaction – we sometimes flew across oceans to be together. A culmination emerged during the house planning process. Xenakis remarked in 1992 that the designs he had created on our behalf were “as though they were for myself.” For convenience in moving back and forth between various perspectives on the overall process, significant events are numbered here in their order of occurrence. They include letters, notes taken, and encounters of various sorts. Each entry indicates, as relevant, the nature of the occasion as well as whom or what initiated it. This chronicle approach allows for convenient connectivity across all of the following chapters.

Some of the material included is explanatory, intended to frame in a meaningful way what place a numbered item had in the interactions between us, Xenakis, and his spouse, Françoise. There are some illustrations, but our aim in this first chapter is not to explore Xenakis's sketches and diagrams in relation to the Desert House that he would design, but rather to describe the relationship out of which his drawings arose. Discussion of the sketches themselves will occur in later chapters. The greater part of the material included in this book constitutes direct transcriptions of writings generated either by Xenakis, Karen, or Roger over several decades. This chronology is not complete, but what matters and can be substantiated is included. Letters, notebook entries, and so on are mostly excerpted, rather than presented in their entirety. From time to time there are also inserted what can be understood as “set pieces” focused on revealing episodes in the arc of our connection to Xenakis over the years.

Chapter 2 (Beginnings: Considering Elements in Xenakis's Early Sketches) examines the first sketches that Xenakis sent to Del Mar: what they posit, which elements were retained over time, and which were to be discarded. From the start, there was a pattern of proposal,

interaction, adjustment between us and Xenakis, and then a new proposal. The arrival of his six primary deliveries is noted in Chapter 1. There is brief comment on each in the order they were received. These initiating documents are placed in time. But only a few among the totality of the collected images referenced in this book are dated. The unbound sheets comprising our total image collection range from small and incidental jottings (less than 3×4 inches) to large and intricately detailed proposals (24×45 inches). Their ordering has been inferred, in part, by the way in which thematic concerns and accumulating refinements appear to have evolved over time, but it is recognized that some items could have occurred in a different order. In this chapter a detailed examination of Xenakis's earliest mailings to us is undertaken. And in addition to considering two of the three pages first received in detail, background materials of varied sorts including musical scores, realized architectural projects, and graphic designs are commented on. In addition, some remarks on the occasional mathematical strategies used by Xenakis are discussed, especially proportion.

In Chapter 3 (Foundations), we trace the evolution of Xenakis's arrival at a final floor plan that allowed him to proceed with realizing the remainder of his design concept. It is noted that the varied notions that percolate in his mind's eye during these foundational explorations have diverse and natural forms at their root: a crescent, a circle, and that all that followed this phase of his work was centered upon contrasting and evaluating the implications of each of his initial positings. The care with which function, shape, and placement were explored is notable as it has implications in regard to the ways that he used in realizing his musical projects.

As a logical next step, Chapter 4 (Using Space) examines the ways in which the now established foundation will influence the walls that will rise from its designated boundaries. This could find a parallel with the way in which envisioned sections of a musical composition might then be filled with appropriate behaviors serving the larger formal purposes of the composer. There is reconsideration of the previously commented sketches, now, in particular, attending to how the geometries of Xenakis's characteristic "waving glass" panes are made to follow an inferred "counterpoint" in terms of how the proportional sequences on the second level of the living room are aligned with those arrangements below. In his first complete drawing of the Reynolds Desert House, Xenakis also adds a three-dimensional rendering of how the intended structure will look as an accomplished structure. In addition to considering the waving glass surfaces, the unique characteristics of Xenakis's residential plans, his wall fenestrations are introduced. Chapter 5 (Illumination) follows the use Xenakis makes of three ways of allowing incident light to play on the interior walls: waving glass, fenestrations, and "light canons."

The discussion of Illumination in Chapter 5 is similarly intriguing to the earlier explorations on Chapter 3 regarding foundations. Here again, Xenakis displays a striking interest not only in the function of lighting but also to the visual dimensionality of providing for it (the appearance of waving glass arrays or fenestrations), but also to its potentially performative impact. Particularly in desert contexts, the intensity of the light is a year-around given. The limited surface area of figures incised into otherwise blank walls allows the shaping they provide to incident light to cast similarly shaped shadowings that move across the inner surfaces of the structure as the day progresses. The "light canon" concept originated with La Tourette and allowed shafts of natural light to penetrate deep into that structure. The discussion in this chapter moves from a primal instance in the walls of a stone hut to the complex and disconcerting pictographic friezes proposed in his final comprehensive revision of 1991.

Chapter 6 (Precedents) provides a brief overview of a previous residential design that Xenakis had done for his colleague, François-Bernard Mâche. Situated on the Greek island of Amorgos, this project followed a similar though less elaborate path to ours. Preparatory sketches evolved to a more clearly delineated plan that was then developed into actual diagrams suitable to guide

actual construction by an architect in Athens. We trace the similarities and differences and use the fact that this design was actually realized to place ours in perspective. Mention is also made of an extension Xenakis designed for another colleague who had a property on Corsica. Though this project was fully realized, the structure was subsequently destroyed by Corsican rebels, presumably because of the French nationality of its European designer and owner.

There are, in Chapter 7 (Some Closer Looks), nine compact scenes of significant dimension in our relationship with Xenakis. These subjects, ranging from our migration out into the larger world from our native Michigan, through experiences in Japan, Crete, Strasbourg, Avignon, and Greece, mention of performers of particular importance in Xenakis's career, and transcripts of question and answer exchanges between him and three composer colleagues very late in his life.

Chapter 8 (Creation: A Personal Assessment) takes alternative approaches to three of Xenakis's musical compositions in an effort to speculate on how he engaged in music with procedures bearing clear relationships to those that were discussed in the preceding chapters as architectural concerns. In all three cases, there are extant recorded performances available that can be experienced directly, as is not the case with most of the architectural instances treated earlier. *Achorripsis* was an early small ensemble work that he discusses in some detail in *Formalized Music*. Here we have both the completed score and rather detailed information about the basic matrix he devised (the metaphoric floor plan) as the basis for his often flexible responses as he composed. A later and more mature chamber work, *Thallein*, shows more immediately understandable distributions of musical events that define textures – in a sense, metaphoric walls or masses – that guide sonic experiences rather than those physically instantiated in architectural contexts. The discussion describes successive stages that Xenakis passes through as he explores and eventually exhausts their apparent potential. The third work examined is the string quartet, *Tetras*, written for the Arditti Quartet. Here I take the approach of listening for what are called “Landmark” events, and discussing how Xenakis causes his musical materials to enter and exit these notable moments.

In the end, criteria that Xenakis utilized or proposed in his writings in both acoustic and architectural contexts are compared point by point to establish the anticipated consistencies characteristic of this singularly innovative creative mind.

Roger Reynolds
Karen Reynolds



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We have been preparing for and working to realize this book for nearly five decades. The journey has been a fascinating, enriching, and absorbing one. The central focus is Iannis Xenakis who was unceasingly generous from our earliest meetings until his passing. His friendship and his openness through the years was a precious gift that we, in this book, endeavor to repay in a meaningful way. Although we knew her less well, Françoise was a significant presence in our mutual relationships as well, and after his passing gave us permission to realize this tribute to him, to our friendship, and to the Desert House project that achieved completion as an architectural vision, but, regrettably, not as a structure. It is our hope that the publishing of this record might, eventually, result in an actual physical realization.

In 1964, we drove from Paris to West Berlin in a battered Peugeot, seeking contact with the American master Elliott Carter. Through this intersection, we also met Xenakis and pianist/composer Takahashi Yūji, who was his assistant there. These encounters had far-reaching importance for us. Back in Paris, Yūji arranged for us to meet with Iannis and Françoise at their apartment on a sun-drenched afternoon. So began a decades-long relationship between us and both Takahashi and the Xenakises who have now passed on.

Takahashi was our early link to the Xenakises. We have enjoyed a long friendship with him and his musicality, intelligence, and wry warmth. His frequent visits to Del Mar were a feature of our early California years shared equally with our then very young daughter, Erika, whom he also befriended. Later developments brought us into a mutually valuable relationship with author and translator Sharon Kanach, whose dedication to Xenakis's legacy, musical and written, has been invaluable for those who care about his achievement. She facilitated access to the then holdings of the Bibliothèque nationale de France in Paris, and also traveled with us to Corsica for a memorable visit to the Xenakis Summer House after Iannis's passing.

Karen and I express here our deep gratitude to these remarkable individuals who enriched our lives immeasurably. For their friendship and sharing in many ways that marked the years following our first encounters, we are deeply indebted. Iannis's offer of plans for a vacation house intended for the Anza-Borrego Desert east of San Diego was our culminating engagement: in Paris, in San Diego and Borrego Springs with Iannis and Françoise, with Iannis in Japan, and with Françoise on Corsica after his death. Their cooperation with the book project,

xx Acknowledgments

and Françoise's formal approval, allowed us eventually to realize this publication memorializing an extraordinary process so that others may enjoy its features.

Karen and I have been partners for over five decades, working closely on many enjoyable and, we hope, useful enterprises – in Ann Arbor, Paris, Bellagio, Rome, London, Helsinki, Mexico City, Porto Alegre, Tokyo, San Diego, and Washington. Whatever the undertaking, we share the metaphoric load, dividing responsibilities as seems fitting, but always engaged, mutually, in seeking the best possible outcome. So it has been with this book, which could not have happened without both of us: constant discussion, searching through documents of various sorts, evaluating, discussing chronology, discovering and debating connections, drafting, editing, rearranging, and finally settling upon – with the sage guidance of editor Constance Ditzel – this final form. The manuscript was developed in Del Mar, in Chatham on Cape Cod, and on Corsica.

Editorially, we thank Constance Ditzel of Routledge New York. As she had welcomed two earlier publications of mine (*Mind Models: New Forms of Musical Experience* (revised edition), and *Form and Method: Composing Music*), I spoke with her regarding the hope of finding a way to realize a book regarding Xenakis's design for our Desert House. At that time, publishers saw such projects as “tweeners”: endeavors of interest but awkwardly situated between two fields (music and architecture, in this case). But during a 2019 chat between us in mid-town Manhattan, the picture had altered somewhat, and the idea that we were in a unique position to explore – with abundant unpublished evidence – the relationship between the architectural and the musical creativity of one of the 20th century's most remarkable innovators, now seemed viable. Fortunately, the reviewers of our proposal she called upon agreed.

As our efforts to conclude this book and ready it for press continued, we called upon long-time friends, Adam Greene and Karen's regular collaborator, Stacie Birky Greene, for their valuable assistance in regard to proofreading (Adam) and image preparation (Stacie). Karen worked with Adam and Stacie on the editing process. It is surely the case that, without their dedication this project would have been greatly delayed, perhaps not come to pass. Two other names deserve our gratitude: Thanassis Rikakis and Irvine Arditti. Rikakis is mentioned frequently in this book as an invaluable observer of and advocate for Xenakis's significance, and as organizer of numerous occasions referred to in our text with respect and gratitude. As indicated in Chapter 7, Arditti became the primary champion of Xenakis's music during his later years. The unflinching commitment, precision, and passion that he and his quartet bring to Xenakis's music are an unparalleled testament.

Finally, we have realized that nature itself played its role in the realization of this book. Though we had traveled widely and experienced landscapes that were subtle or dramatic in ways new to us, our first experience with the Anza-Borrego Desert (It is the largest state park in the forty-eight contiguous states.) east of Del Mar felt unprecedented. One travels through a variety of micro-climates from the Pacific coast where we live, culminating at an elevation of over 4,000 feet at the western rim of the desert. One passes the park gate and, surmounting a short rise, beholds a view stretching past the Salton Sea to the East. Dropping to the sea-level desert floor involves a twenty-two-mile descent along a serpentine road that meanders through a landscape of gigantic boulders and bristling shrubbery, each turn offering a breathtaking new vista. We were fascinated by the flora on the desert floor, the sensational carpets of flowers that unpredictably arise after spring rains, by the contours of the mountains, and especially the ways in which varicolored shadows move across them as the sun's ministrations fade each day.

In our ongoing discussions with Iannis as the Desert House project evolved, the potential meanings of *inside* and *outside* were often central, not only in regard to windows and doors,

but to siting, to the implications of the rugged terrain on the lot we had purchased. There was a curious rhyming between the immediate surroundings in Borrego Springs and those we had encountered on Amorgos: a similar formative architecture shapes the furtive plants; the earth is bone-dry; the sun's intensity demands a perpetual squint. The larger picture seemed full of parallels and resonances as can be the case when an endeavor feels fated as this one did.

Roger Reynolds
Karen Reynolds



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CHRONICLE OF A FRIENDSHIP

Part One. Interactions from 1964 to 1984

1. Early Encounter in Berlin [1964]

We were living in Paris, where Karen had a Fulbright Grant to study flute and French. Our resources were extremely limited. A rare extravagance agreed upon was attendance at Pierre Boulez's pathbreaking *Domaine Musical* concerts. Among other noteworthy experiences there, we heard Takahashi Yūji premiere Xenakis's *Eonta* (with Pierre Boulez conducting an ensemble employing doubled brass, as Boulez did not believe single players could handle the demands of the individual instrumental parts). Later that same year, we drove through East Germany to Berlin hoping for a meeting with the eminent American composer, Elliott Carter. The Carters' welcoming warmth was but the first in a series of small but significant gestures that Elliott and Helen extended to us in subsequent decades, in New York (a remarkable Giacinto Scelsi concert at the Italian Cultural Center presented by Klangforum Wein, dinners at Greenwich Street Tavern and the Century Club), in Los Angeles and Santa Monica, in Warsaw, as well as at the Carters's 12th Street apartment, where we were welcomed and introduced to others whom Elliott and Helen felt might be kindred spirits.

A Virtual Premiere

In France, in the early 1960s, it was believed to be illegal for a foreigner to own a car for more than a year. Rumor or reality? As we were leaving the American Students and Artists Center on *blvd. Raspail* one afternoon, a youngish man approached us and asked whether we might be interested in buying a car. I responded that the thought was intriguing but that I had no resources to cover such a move. He asked how much I had with me at that moment. Pockets checked, my response was "Twenty-eight dollars." "Sold!" was his reply. His acceptance was followed by an explanation that he had only one day left to replace his own name on the registration document with that of another.

During these days, Karen was busy with studies at the Sorbonne and also lessons under the tutelage of flutist Michel Debost. I worked continuously at a table in our unheated

(Continued)

apartment on rue du Faubourg-Poissonnière, making slow but detectable progress on the large-scaled work, *Fantasy for Pianist*. The lack of an adequate revenue stream confined us more or less to free events and the occasional film re-run that could be seen for a few francs. Years later, over dinner at our home in Del Mar, California,¹ Philip Glass was recounting his experiences in Paris during the same years. We realized that we had all discovered the same source of maximum food value for minimum outlay: couscous (the vegetable version) with abundant harissa sauce, of searing intensity. The combination kept one's stomach occupied. This detail constituted a rare point of collegial consonance between Philip and me.

Possession of a car – it was a battered, red-white-and-blue Peugeot (We christened it “Jasper” after the painter, Jasper Johns, and his Flag images.) – opened our lives to a range of hitherto unthinkable potential. The one that was both the most impractical and thus also the most intriguing was the idea of driving through East Germany to West Berlin, where Carter was living with German government support. It could be revealing – perhaps more – to get a perspective from him on the work I was doing. We decided to risk a drive to West Berlin in the hope that, once there, it would be possible to arrange a meeting. We arrived, and it was a relief that, having answered the phone, Helen, who was notoriously diligent in protecting



FIGURE 1.1 Takahashi Yūji with his son. Courtesy Reynolds Archive.