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Uncommon Influence: Exploring Xenakis' Use of Math and Architecture as Compositional Tools Bibliography

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**Uncommon Influence: Exploring Xenakis' Use of Math and Architecture as
Compositional Tools Bibliography**

Uncommon Influence: exploring Xenakis' use of math and architecture as compositional tools Bibliography

Dictionary/Encyclopedia Articles(5)

Botstein, Leon. "Modernism." *Grove Music Online*. Edited by Deane Root. Accessed 3 Nov. 2020.
<https://www-oxfordmusiconline-com.du.idm.oclc.org/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000040625>.

Davies, Hugh. "Electronic instruments." *Grove Music Online*. Edited by Deane Root. Accessed 3 Nov. 2020.
<https://www-oxfordmusiconline-com.du.idm.oclc.org/grovemusic/view/10.1093/gmo/9781561592630.001.0001/omo-9781561592630-e-0000008694>.

Hoffmann, Peter. "Xenakis, Iannis." *Grove Music Online*. Edited by Deane Root. Accessed 3 Nov. 2020.
<https://doi-org.du.idm.oclc.org/10.1093/gmo/9781561592630.article.30654>.

Tatlow, Ruth. "Fibonacci series." *Grove Music Online*. Edited by Deane Root. Accessed 3 Nov. 2020.
<https://doi-org.du.idm.oclc.org/10.1093/gmo/9781561592630.article.49578>

Dissertations and Theses(5)

Andre De-Henau, Joris. "Towards an Aesthetics of the '(in)formel': Time, Space and the Dialectical Image in the Music of Varèse, Feldman and Xenakis." PhD Diss., University of Durham, 2015.

Arsenault, Linda Marie. "An Introduction to Iannis Xenakis's Stochastic Music: Four Algorithmic Analyses." PhD Diss., University of Toronto, 2000.

The objective of this dissertation is to provide a basic structure for analysis of stochastic music using three pieces: *Pithopkta* (1955-56); *Achorripsis* for 21 musicians (1956-57); and *Amlogique A* for 9 strings (1958), pieces which Xenakis submits of fundamental examples of Stochastic Music. Arsenault substantiates their analysis with a unique algorithm to show each step of the compositional process.

Chung, Immin. "Mathematical and Architectural Concepts Manifested in Iannis Xenakis's Piano Music." PhD Diss., The University of Texas at Austin, 2003.

La Sward, Rosalie. "An Examination of The Mathematical Systems Used in Selected Compositions of Milton Babbitt and Iannis Xenakis." PhD Diss., Northwestern University, 1981.

The purpose of this dissertation is to provide a simplified explanation of mathematical systems used by Xenakis and Serialist composer Milton Babbitt and to compare and contrast they are applied to each composer's work.

Uno, Yayoi. "The Roles of Compositional Aim, Syntax, and Design in the Assessment of Musical Styles: Analyses of Piano Music by Pierre Boulez, John Cage, Milton Babbitt, and Iannis Xenakis circa 1950." PhD Diss., University of Rochester, Eastman School of Music, 1994.

Essays in Collections(5)

Besada, José L. "Visualizing Sound, Hearing Diagrams: On the Creative Process of Syrmos by Iannis Xenakis." In *Diagrammatic Representation and Inference*, 162-66. Vol. 12169. Lecture Notes in Computer Science. Cham: Springer International Publishing, 2020.

Exarchos, Dimitris. "The Sieves of Iannis Xenakis." In *Mathematics and Computation in Music*, 419-29. Vol. 37. Communications in Computer and Information Science. Berlin, Heidelberg: Springer Berlin Heidelberg.

Dimitris Exarchos, is a theorist and musicologist specialising in contemporary music. He holds a PhD in Theory and Analysis from Goldsmiths. He has published in books and journals, delivered talks in the UK and abroad, organised symposia (Xenakis International Symposium; Notation in Contemporary Music; Compositional Aesthetics and the Political) at Goldsmiths' Contemporary Music Research Unit (CMRU). In this essay Dimitris dives deep into Xenakis' concept of scientific and mathematical sieves. Xenakis believed that mathematics could be applied to all aspects of music such as pitch, note duration, density, etc. Dimitris defines these mathematical "sieves" as a distinct set of equations that Xenakis applied to composition.

Eldridge, Alice, McCormack, Jonathan, Harley, James, Keislar, Douglas, Dorin, Alan, McIlwain, Peter, and Dean, Roger T. "Computational Approaches to Composition of Notated Instrumental Music: Xenakis and the Other Pioneers." In *The Oxford Handbook of Computer Music*, The Oxford Handbook of Computer Music, 2011-04-22, Vol.1. Vol. 1. Oxford Handbooks. Oxford University Press, 2011.

Simoni, Mary, and Roger B. Dannenberg. "The History and Philosophy of Algorithmic Composition." In *Algorithmic Composition: A Guide to Composing Music with Nyquist*, 6-15. Ann Arbor: University of Michigan Press, 2013. Accessed November 4, 2020. <http://www.jstor.org/stable/10.3998/mpub.3702280.6>

Wolff, Christian. "Crossings of Experimental Music and Greek Tragedy." In *Ancient Drama in Music for the Modern Stage*, 2010-09-02. Oxford: Oxford University Press, 2010.

András, Varga Bálint. "Iannis Xenakis (1922–2001)." In *Three Questions for Sixty-Five Composers*, by Varga Bálint András, 273-82. Woodbridge, Suffolk, UK: Boydell & Brewer, 2011.

Journal Articles(9)

Hoffmann, Peter. "‘Something Rich and Strange’: Exploring the Pitch Structure of GENDY3." *Journal of New Music Research* 33 (2004): 137–44. Accessed November 2020.

<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=15899120&site=ehost-live&scope=site>

Kanach, Sharon. "The Writings of Iannis Xenakis (Starting with ‘Formalized Music’)." *Perspectives of New Music* 41, no. 1 (2003): 154-66. Accessed November 4, 2020. <http://www.jstor.org.du.idm.oclc.org/stable/25164509>.

Sharon Kanach worked closely with Xenakis on many of his literary projects, providing english translation for some of his texts. Kanach also co-authored Xenakis’ *Musique de l’Architecture*. In this article, Kanach gives us some insight into Xenakis’ personality and his motivations to write, followed by analysis of certain passages of his book, *Formalized Music*.

Kiourtsoglou, Elisavet. "An Architect Draws Sound and Light: New Perspectives on Iannis Xenakis’s Diatope and La L’egende d’Eer (1978)." *Computer Music Journal* 41 (4): 8–31. Accessed November 2020.

<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=127294195&site=ehost-live&scope=site>

Lee, Jonathan Scott. "Iannis Xenakis and the Presocratic Foundations of a New Music." *Journal of Modern Greek Studies* 29 (2011): 73–82. Accessed November 2020.

<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=60941149&site=ehost-live&scope=site>.

Luque, Sergio. "The Stochastic Synthesis of Iannis Xenakis." *Leonardo Music Journal* 19 (2009): 77-84. Accessed November 3, 2020.

<http://www.jstor.org.du.idm.oclc.org/stable/40926355>.

In this article, composer Sergio Luque provides a historical introduction to the development of Xenakis’ stochastic processes which he used to compose. Luque includes discussion on some works of Xenakis which utilize stochastic synthesis and breaks down the algorithms used for each piece.

Oswalt, Philipp. "Iannis Xenakis’ Polytopes." *Contemporary Music Review* 21 (2002): 35–44. Accessed November 2020.

<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=8989725&site=ehost-live&scope=site>

Pape, Gerard. "Iannis Xenakis and the 'Real' of Musical Composition." *Computer Music Journal* 26, no. 1 (2002): 16-21. Accessed November 3, 2020.
<http://www.jstor.org.du.idm.oclc.org/stable/3681397>.

Gerard Pape, is a composer and director of the Center for the Composition of Music Iannis Xenakis, formerly known as Equipe de Mathématique et Automatique Musicales, a musical research center in Paris founded by Xenakis in 1966. This article is written from the perspective of someone who knew Xenakis quite well and considered him a role model and mentor. He writes about the influence of Xenakis not only as an artist but as a person as well, recalling "the question he posed most frequently to me was 'Are you happy?'" The main point he focuses on in this article is Xenakis' emphasis on personal freedom as an artist, and how he strived for that using his computer program GENDY.

Rahn, John. "Iannis Xenakis: Regard, Disregard; Liberation." *Perspectives of New Music* 39, no. 1 (2001): 211-14. Accessed November 3, 2020.
<http://www.jstor.org.du.idm.oclc.org/stable/833538>.

Robindoré, Brigitte, and Iannis Xenakis. "Eskhaté Ereuna: Extending the Limits of Musical Thought: Comments on and by Iannis Xenakis." *Computer Music Journal* 20, no. 4 (1996): 11-16. Accessed November 3, 2020. doi:10.2307/3680410.

Brigitte Robindoré is a French-American composer who had the opportunity to work in French research centers presided over by Xenakis in 90's. This collection of quotes from various unpublished interviews with Xenakis provides more insight into his feelings and philosophies about composing. Most interestingly, he talks about the limitations he perceived in serial and twelve tone composition, mainly all of the rules and limitations self imposed by the composers. Each entry is preceded by one from Robindoré in which she provides context and her commentary as someone who worked closely with Xenakis

Sikiaridi, Elizabeth. "The Architectures of Iannis Xenakis." *Technoetic Arts: A Journal of Speculative Research* 1 (2003): 201-7. Accessed November 2020.
<http://du.idm.oclc.org/login?url=https://search.ebscohost.com/login.aspx?direct=true&db=a9h&AN=12755799&site=ehost-live&scope=site>

Sterken, Sven. "Towards a Space-Time Art: Iannis Xenakis's Polytopes." *Perspectives of New Music* 39, no. 2 (2001): 262-73. Accessed November 3, 2020.
<http://www.jstor.org.du.idm.oclc.org/stable/833570>.

Zaplitny, Michael, and Iannis Xenakis. "Conversation with Iannis Xenakis." *Perspectives of New Music* 14, no. 1 (1975): 86-103. Accessed November 4, 2020.
doi:10.2307/832544.

Zaplitny begins this interview with a brief “relatively non-technical” introduction to some of the concepts laid out by Xenakis in *Formalized Music*. In the interview Zaplitny and Xenakis delve into many topics, including how the many parallels he drew between architecture and music influenced his work.

Music Scores(3)

Xenakis, Iannis. *Metastaseis*. New York: Boosey & Hawkes, 1967.

Xenakis, Iannis. *Polytope*. New York: Boosey & Hawkes, 1969.

Xenakis, Iannis. *Psappha : Pour Percussion Solo / Iannis Xenakis*. Paris: Editions Salabert, 1976.

Secondary or Tertiary Monographs(5)

Xenakis, Iannis. *Formalized Music; Thought and Mathematics in Composition*. Bloomington: Indiana University Press, 1971.

In this text, Xenakis provides insight into his background, philosophy and methods for composing what he called *Stochastic Music*, a term he coined for composing using Stochastic Mathematical procedures.

Sound and Video Recordings(3)

Xenakis, Iannis.: *Psappha / Okho / Perséphassa*. Recorded by then Demoé Percussion Ensemble. Stradivarius STR40001SD, streaming audio. Accessed November 3, 2020. Naxos Music Library.

<https://du-nml3-naxosmusiclibrary-com.du.idm.oclc.org/catalogue/item.asp?cid=STR40001SD>

Xenakis began composing solo and ensemble works for percussion towards the end of his career. *Okho*, his work for Percussion Trio features sections composed using GENDY, a stochastic algorithm Xenakis wrote to generate musical material, and the fibonacci sequence, creating quite a nice contrast between Stochastic chaos, and order.

Xenakis, Iannis.: *Orchestral Works, Vol 5*. Conducted by Arturo Tamayo. Recorded with the Luxembourg Philharmonic Orchestra. Timpani 1C1113, 2008, streaming audio. Accessed November 3, 2020. Naxos Music Library.

<https://du-naxosmusiclibrary-com.du.idm.oclc.org/catalogue/item.asp?cid=1C1113>

This CD includes many seminal works of Xenakis including *Metastasis*, which is considered Xenakis’ first landmark composition which employs mathematical ideas he acquired from Le Corbusier, the architect whose firm Xenakis worked for. The original sketch for *Metastasis* served as the basis for the design of the Philips Pavilion at the 1963 World’s Fair in Brussels.

Xenakis, Iannis.: *Edition, Vol. 9 - Electronic Works, Vol. 2*. Mode Records MOD-CD-203, 2008, streaming audio. Accessed November 3, 2020. Naxos Music Library.
<https://du-naxosmusiclibrary-com.du.idm.oclc.org/catalogue/item.asp?cid=MOD-CD-203>