

Interpreting Freedom

Researching the Experience of new Approaches to
Xenakis' Free Stochastic Music

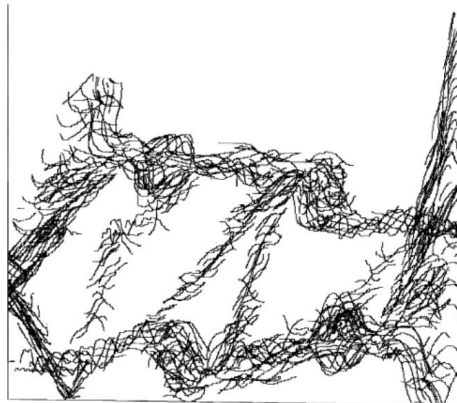
European Platform for Artistic Research in Music

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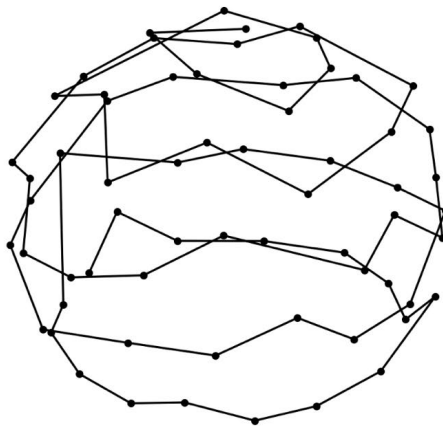
April 1st 2023

Arabella Pare

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XENAKIS 100



Xenakis ~~100~~ 101
HfM Karlsruhe
13. January 2023



HOCHSCHULE
FÜR MUSIK
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Free Stochastic Music: Fortran IV

C	PROGRAM FREE STOCHASTIC MUSIC (FORTRAN IV)	XEN	6
C		XEN	7
C	GLOSSARY OF THE PRINCIPAL ABBREVIATIONS	XEN	8
C			
C	A - DURATION OF EACH SEQUENCE IN SECONDS	XEN	9
C	A10,A20,A17,A35,A30 - NUMBERS FOR GLISSANDO CALCULATION	XEN	10
C	ALEA - PARAMETER USED TO ALTER THE RESULT OF A SECOND RUN WITH THE	XEN	11
C	SAME INPUT DATA	XEN	12
C	ALFA(3) - THREE EXPRESSIONS ENTERING INTO THE THREE SPEED VALUES	XEN	13
C	OF THE SLIDING TONES (GLISSANDI)	XEN	14
C	ALIM - MAXIMUM LIMIT OF SEQUENCE DURATION A	XEN	15
C	(AMAX(I),I=1,KTR) TABLE OF AN EXPRESSION ENTERING INTO THE	XEN	16
C	CALCULATION OF THE NOTE LENGTH IN PART B	XEN	17
C	BF - DYNAMIC FORM NUMBER. THE LIST IS ESTABLISHED INDEPENDENTLY	XEN	18
C	OF THIS PROGRAM AND IS SUBJECT TO MODIFICATION	XEN	19
C	DELTA - THE RECIPROCAL OF THE MEAN DENSITY OF SOUND EVENTS DURING	XEN	20
C	A SEQUENCE OF DURATION A	XEN	21
C	(E(I,J),I=1,KTR,J=1,KTE) - PROBABILITIES OF THE KTR TIMBRE CLASSES	XEN	22
C	INTRODUCED AS INPUT DATA, DEPENDING ON THE CLASS NUMBER I=KR AND	XEN	23
C	ON THE POWER J=U OBTAINED FROM $V3*EXP(U)=DA$	XEN	24
C	EPSI - EPSILON FOR ACCURACY IN CALCULATING PN AND E(I,J), WHICH	XEN	25
C	IT IS ADVISABLE TO RETAIN.	XEN	26
C	(GN(I,J),I=1,KTR,J=1,KTS) - TABLE OF THE GIVEN LENGTH OF BREATH	XEN	27
C	FOR EACH INSTRUMENT, DEPENDING ON CLASS I AND INSTRUMENT J	XEN	28
C	GTNA - GREATEST NUMBER OF NOTES IN THE SEQUENCE OF DURATION A	XEN	29
C	GTNS - GREATEST NUMBER OF NOTES IN KW LOOPS	XEN	30
C	(HAMIN(I,J),HAMAX(I,J),HBMIN(I,J),HBMAX(I,J),I=1,KTR,J=1,KTS)	XEN	31
C	TABLE OF INSTRUMENT COMPASS LIMITS, DEPENDING ON TIMBRE CLASS I	XEN	32
C	AND INSTRUMENT J, TEST INSTRUCTION 480 IN PART 6 DETERMINES	XEN	33
C	WHETHER THE HA OR THE HB TABLE IS FOLLOWED. THE NUMBER 7 IS	XEN	34
C	ARBITRARY.	XEN	35

FSM für Computerflügel

Alexander Voizian

$\text{♩} = 60$

Musical score for parts 1 through 8, measures 1-13. The score is written for a computer keyboard and includes dynamic markings such as *p*, *f*, *ppp*, and *ff*. It features complex rhythmic patterns and articulation marks like slurs and accents. Fingerings are indicated with numbers 1-5. The tempo is marked as quarter note = 60.

Musical score for parts 1 through 8, measures 14-27. This section continues the complex rhythmic and dynamic patterns from the previous page, with dynamic markings ranging from *ppp* to *ff*. The notation includes various articulation marks and fingerings.

Free Stochastic Music
for
Yamaha Computerflügel
Alexander Voizian
December 2022

Freedom, Independence, and the Arbitrary

The specificity of aesthetic experience does not rest on a common point of reference, but rather on the commonality of all of the activities that recipients carry out in dealing with artworks. [...]

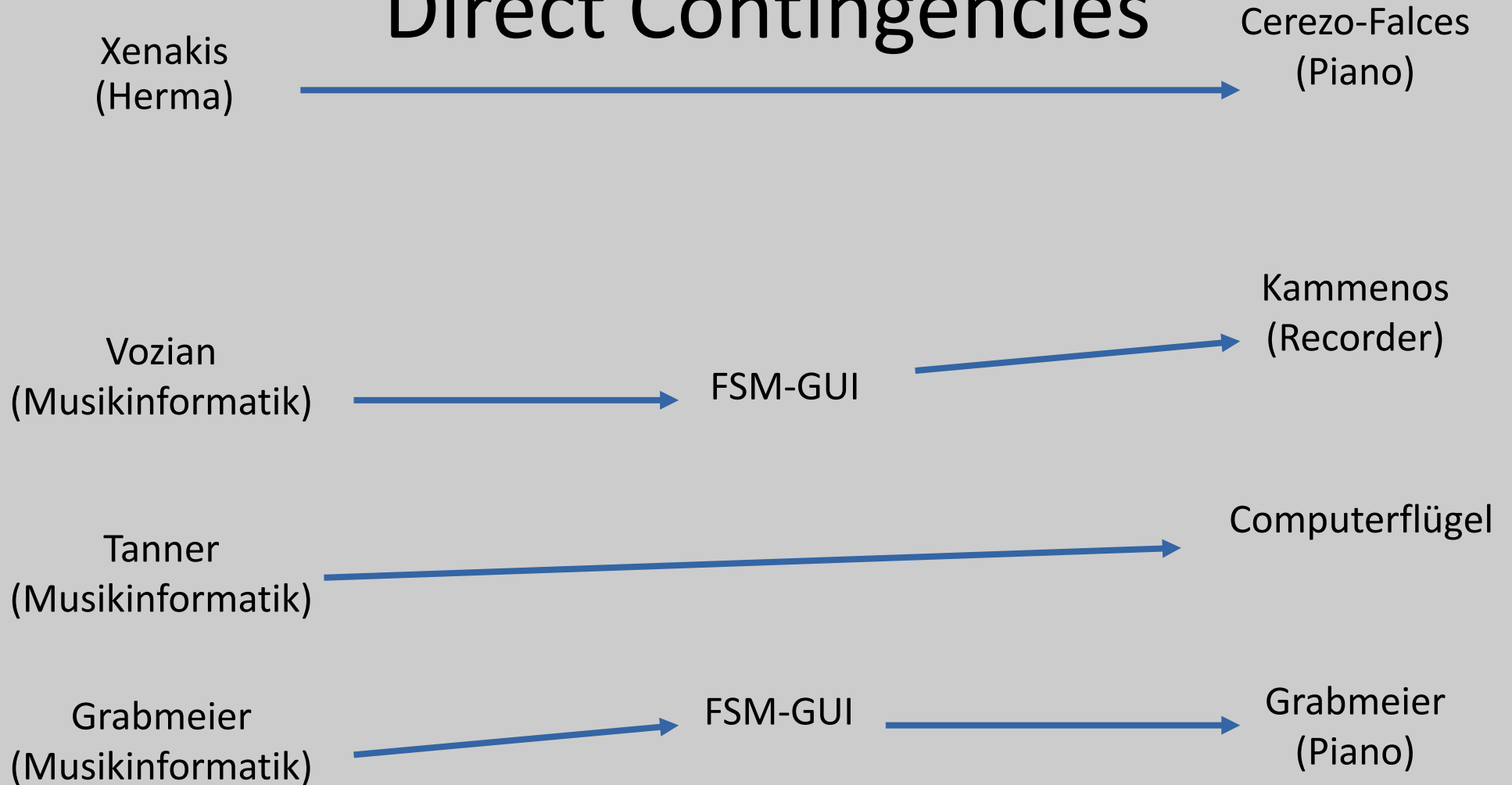
In their activities, experiencing subjects are always independent. But if these activities are guided by the object, then the experience that results is one of lacking independence [*Unselbständigkeit*] within independence [*Selbstständigkeit*].

BERTRAM, Georg. Art as Human Practice. London, Bloomsbury Press, 2019, p. 145

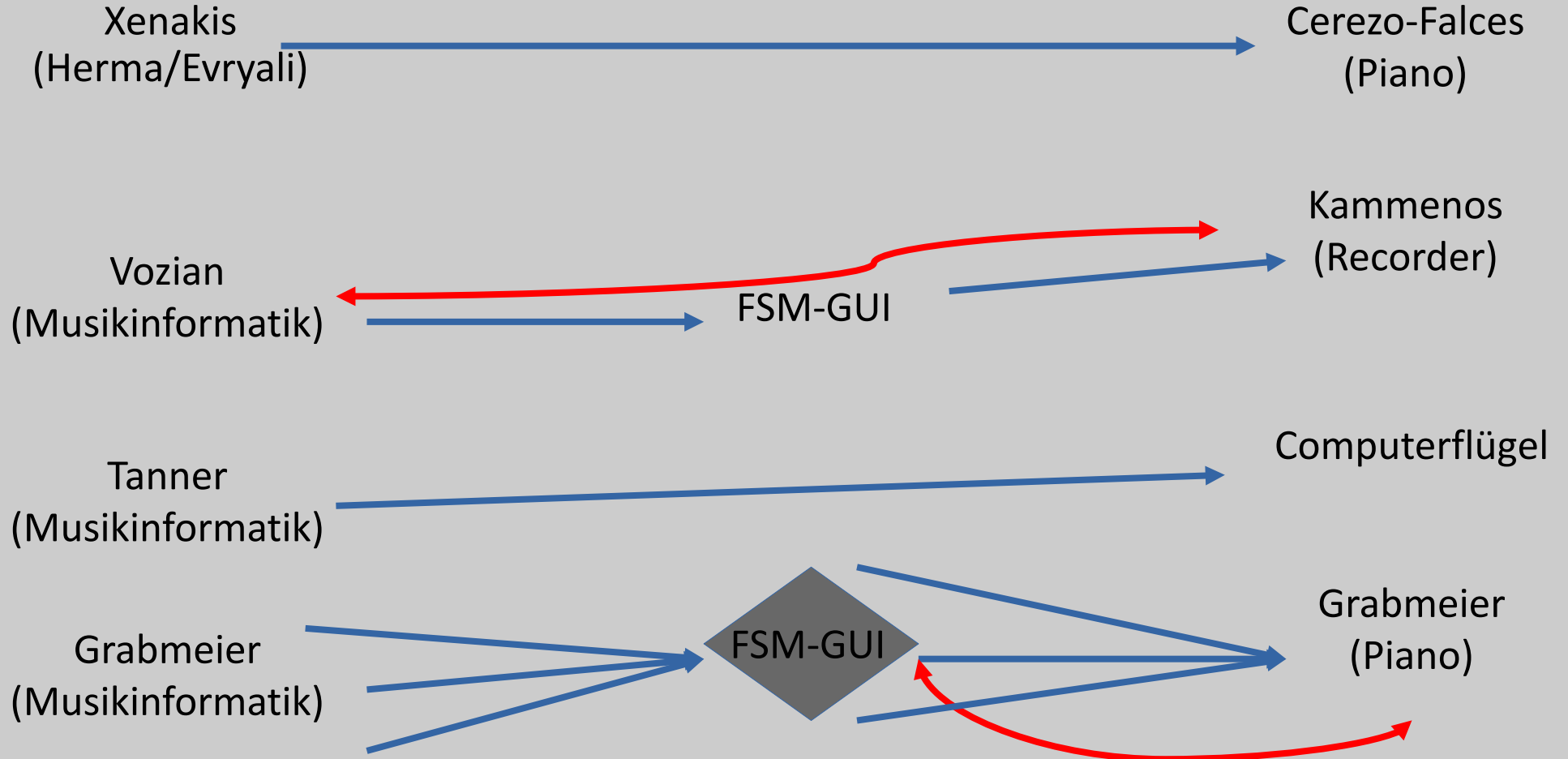
Artistic productivity is the capacity for arbitrariness [*Willkür*] within the inevitable. [*Unwillkürlichen*].

ADORNO, Theodor. Minima Moralia. Reflexionen aus dem beschädigten Leben. Frankfurt a. M., Suhrkamp, 1951, p. 428

Direct Contingencies



Reflexive Contingencies



“Mathematical” and “Corporeal” Musics

What is obtained by calculation always has limits. It lacks inner life ... Mathematics gives structures that are too regular and that are inferior to the demands of the ear and the intelligence. The great idea is to be able to introduce randomness in order to break up the periodicity of mathematical functions [...] The hand, itself, stands between randomness and calculation. It is both an instrument of the mind – so close to the head – and an imperfect tool.



Xenakis: UPIC System
(Unité Polyagogique Informatique du CEMAMu)

Thank you for your attention!

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