

H-71246 (stereo)

IANNIS XENAKIS

ELECTRO-ACOUSTIC MUSIC

Bohór I / Concret P-H II /

Diamorphoses III / Orient-Occident IIII



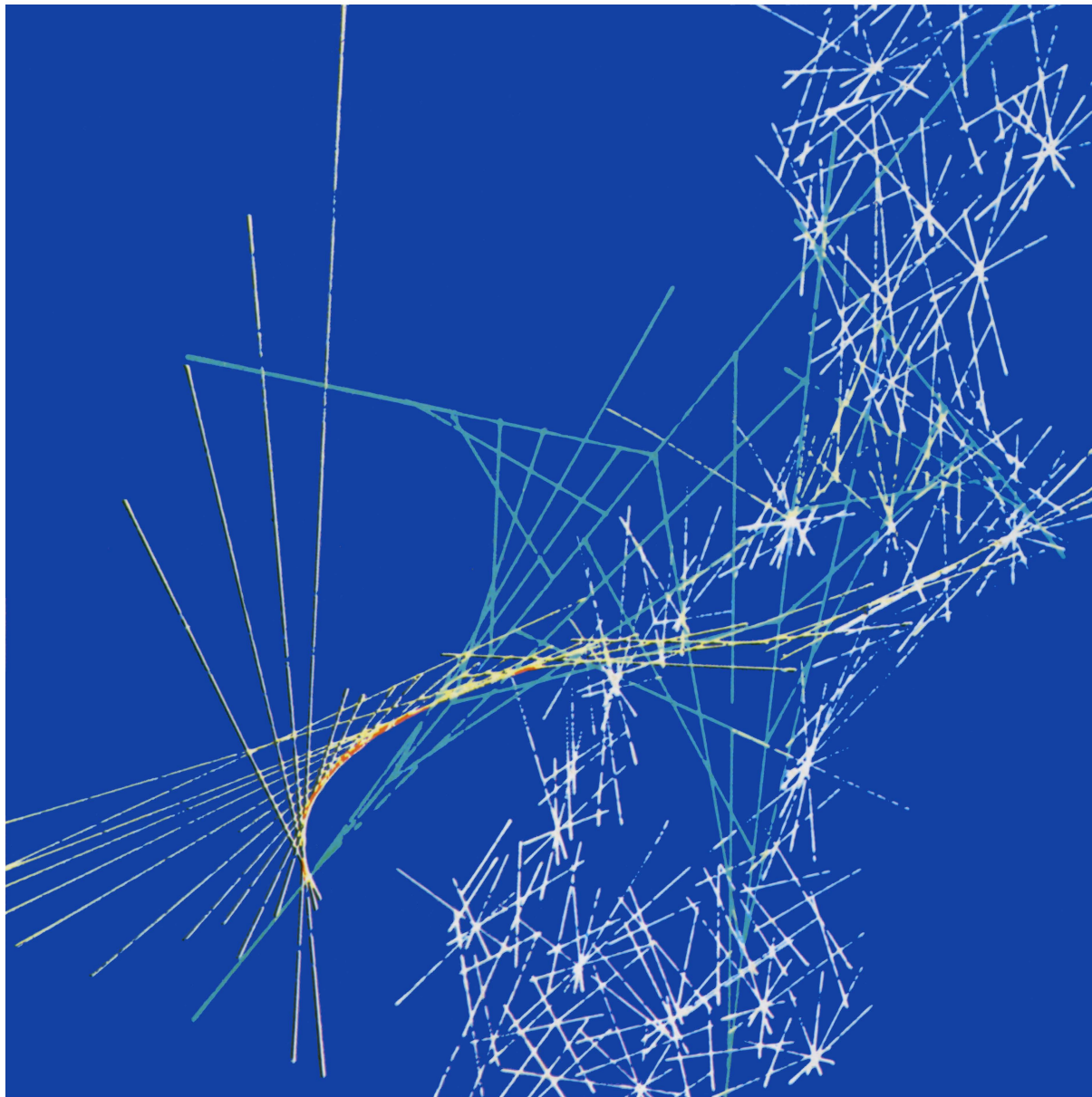
The key to the electro-acoustic music of Iannis Xenakis lies in the concept of gradual transformation within a cloud of events. The composer describes this concept as "a form which followed me about for years. You start with a sound made up of many particles, then see how you can make it change imperceptibly, growing, changing, and developing, until an entirely new sound results. I likened it to the onset of madness, when a person suddenly realizes that an environment that had seemed familiar to him has now become altered in a profound, threatening sense.

"This was a defiance of the usual manner of working with *concrète* sounds. Most of the *musique concrète* which had been produced up to the time of *Diamorphoses* and *Concret P-H* is full of many abrupt changes and juxtaposed sections without transition. This happened because the original recorded sounds utilized by the composers consisted of a block of one kind of sound, then a block of another, and did not then extend beyond this.

"I seek extremely rich sounds (many high overtones), sounds that have a long duration, yet with much internal change and variety. Also, I explore the realm of faint sounds highly amplified. There is usually no electronic alteration of the original sound, since an operation such as filtering diminishes the richness of a sound. The basic manipulations I employ in electro-acoustic music are tape-speed change, mixing, and splicing."

Concret P-H was, along with Edgard Varèse's *Poème électronique*, one of the works composed for the Philips Pavilion of the 1958 Brussels World's Fair; the work's aim was psychologically to prepare the public for the spectacle designed by Le Corbusier in the interior of the Pavilion and accompanied by Varèse's music. Four hundred loudspeakers, lining the interior of the shell, were required to fill up the space with the sonic scintillations of *Concret P-H* and to effect a common emanation from architecture and music, conceived as an entity: the roughness of the concrete and its coefficient of internal friction was echoed in the timbre of the scintillations. The architecture of the Pavilion, conceived and executed for Le Corbusier by Xenakis, was based entirely on non-developable ruled surfaces, or "hyperbolic paraboloids" (*paraboloides ou hyperboliques—P.H.*)

The composer considers *Concret P-H* as a prototype of the musical definition discussed above. He describes the effect of the music in the Pavilion as that of "lines of sound moving in complex paths from point to point in space, like needles darting from everywhere." Splicing of innumerable little pieces of tape (the sound source is the discharge of smoldering charcoal) and mixing to obtain varying densities were the two main techniques employed in *Concret P-H*. The present recording offers a revised version (1968) of the original work—hence its additional number.





Despite the fact that Xenakis uses many computational methods, both manual and mechanized, to construct his instrumental works, his electro-acoustic music is not the direct result of mathematical operations. The sounds that are used possess by their nature the qualities of which the mathematical formulae are abstracted reflections. Thus, instead of working "outside of time" to find general mathematical structures which then give rise to specific temporal events (as in his instrumental music), Xenakis feels that there is a direct contact with materials that have statistical properties, and he approaches the work in the manner of sculpture.

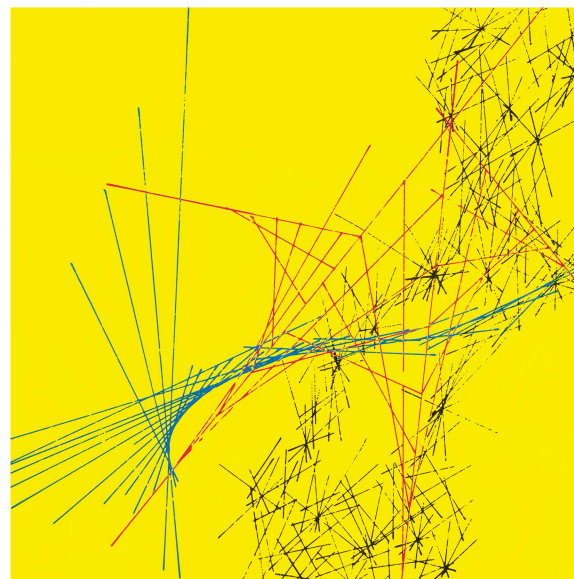
In working on *Diamorphoses* (original version 1956-57, new version *Diamorphoses II*, 1968), Xenakis formulated his theory about density change, leading to the introduction of new sounds in the medium of *musique concrète*, which he felt had become stereotyped. The final section of massed *glissandi* has many internal shifts in density. To obtain distinct and perceptible changes in density, Xenakis found that it was necessary to increase or decrease the number of events by a factor of between two and three; this he discovered through mixing and multiple-track recording.

The sound world of *Diamorphoses* uses what Xenakis refers to as "ugly sounds" in interaction: jet planes, railroad cars crashing into each other, earthquake shocks, etc. Extremes of the frequency spectrum are exploited for the first time, especially the high-pitched percussive sound in the center section (a tiny Greek bell worn by sheep in the fields). Formally, *Diamorphoses* is in four parts, the outer ones being of high density, the inner ones sparse. Each section is a slowly metamorphosing atmosphere, with the dividing lines between them sometimes obscure, sometimes clear.

Orient-Occident (1959-60) exploits the rich dramatic and coloristic properties of carefully produced concrete sound and presents an unusual formal cohesiveness. Along with *Gesang der Jünglinge* of Stockhausen and *Poème électronique* of Varèse, it is one of the classics of the first decade of European electronic music and is a milestone in the use of new materials to create powerful structures.

The work was originally composed for a UNESCO film by Enrico Fulchignoni that depicted a museum tour comparing art objects and sculpture of various world cultures, illustrating the interaction between those of Europe, Asia, and Africa since earliest antiquity. In the version presented on this recording, the duration has been halved from the 22 minutes of the film version: several sections have been deleted and others shortened considerably. An extended ending, very similar to the original film version, as well as a rebalancing of peaks and low points to achieve greater contrasts, distinguishes *Orient-Occident III* (1968) from the version previously available on record.

From an abstract point of view, Xenakis looks upon this work as a solution to the problem of finding many different means of transition from one kind of material to another. One hears changes in varying degrees—overlapping, superimposition, cross-fading, sudden shifts, disguised juncture points. In collecting the sounds for *Orient-Occident*, the composer utilized several unusual techniques. A cello bow drawn over various substances, such as cardboard boxes, metal rods, gongs, etc., produced the sustained and slowly varying sounds at the beginning. The unearthly animal- or insect-like cries in the final section are signals from the ionosphere



IANNIS XENAKIS
(b. 1922)

ELECTRO-ACOUSTIC MUSIC

Side One (21:56)

Bohor I (1962)

Side Two (20:59)

1. Concret P-H II (1958) (2:38)
2. *Diamorphoses II* (1957) (6:49)
3. *Orient-Occident III* (1959-1960) (11:12)

realized at the studios of the *Groupe de recherches musicales de l'O.R.T.F.*, Paris

transformed into sound. At one point Xenakis even uses a greatly slowed-down excerpt from his orchestral work *Pithoprakta*.

Wavelike density change and dynamic change play a large part in the form of this work, with gradually attained peaks occurring in the first, third, and fourth main sub-divisions. The final crest of high density and high dynamic level (climax) has been referred to by Xenakis as "an apotheosis of the 'new man.'"

The important concept of density is included in the broader category of *mass structure*, introduced as a significant compositional dimension by Xenakis in *Metastaseis* and *Pithoprakta*, in the early '50s. An individual musical particle is subordinated to phenomena of many particles moving together, and assuming a larger shape. Xenakis's concept of mass structure was rooted in the profound impact and impressions of the powerful forces of rebellion, insurgency, and conflict which he received during his participation in the Greek resistance to Nazi occupation. Natural events too—such as crickets at night, swarms of locusts, rain, and hailstorms—exhibited this character of mass structure, which, Xenakis felt, had to be introduced into music. A poetic description of these influences is given in the first chapter of Xenakis's book *Musiques formelles* (Paris, 1963; to be released in translation by the Indiana University Press).

Bohor I (1962) was composed at the studios of the *Groupe de recherches musicales* of the French Radio (O.R.T.F.) and is dedicated to Pierre Schaeffer, founder of the studio and the earliest initiator of electro-acoustic music. The work was realized on eight channels, here mixed to two. (Bohor is the name of a brave Knight of the Round Table.) The music, says Xenakis, is "monistic with internal plurality, converging and contracting finally into the piercing angle of the end."

A tremendous furor was aroused in Paris in October 1968 at a performance of *Bohor* during the "Xenakis Day" in the city's International Contemporary Music Week. By the end of the piece, some were affected by the high sound level to the point of screaming; others were standing and cheering. "Seventy per-cent of the people loved it and thirty per-cent hated it," estimated the composer from his own private survey following the performance.

One thing is certain: the piece demands total surrender if there is to be any contact at all with the music. It carries the idea of a single, evolving musical substance to a length of 22 minutes—a limit not exceeded until Xenakis's *Kraanerg* (1968-69), which lasts 75 minutes.

The almost cosmic sound and dimensions of *Bohor* were derived from amazingly simple sources: various Oriental bracelets and other jewelry, and a Laotian mouth organ.

JAMES MANSBACK BRODY

NONESUCH



RECORDS

IANNIS XENAKIS

(b. 1922)

STEREO

H-71246-A

STEREO

SIDE ONE (21:56)

ELECTRO-ACOUSTIC MUSIC

Bohor I (1962)

realized at the studios of the
Groupe de recherches musicales de l'O.R.T.F., Paris

licensed from Disques Erato, France

NONESUCH



RECORDS

IANNIS XENAKIS

(b. 1922)

STEREO

H-71246-B

STEREO

SIDE TWO (20:59)

ELECTRO-ACOUSTIC MUSIC

1. Concret P-H II (1958) (2:28)
2. Diamorphoses II (1957) (6:49)
3. Orient-Occident III (1959-1960) (11:12)

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