

**IOANNIS MITSIALIS**

**Jean-Claude Risset**

***Sud* (1985)**

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Jean-Claude Risset: *Sud* (1985)

This electronic solo piece starts from the idea of the encounter between two different worlds. One represents human factors and the other the elements of nature. Risset starts from this metaphor and works with two different sound categories: artificial electronic sounds and environmental recordings. For him the first category symbolizes the human world, with its scientific aspect of the laboratory. For the second, he organized a wide variety of recorded natural sounds into the two groups of sea and forest sounds, a division that plays a structural role in the form of the piece. These nature sounds were recorded in the countryside near the city of Marseille.<sup>1</sup>

Risset bases the form of the piece on the idea that the two different sound worlds can slowly transform and gradually merge with each other. In order to achieve this blend, he develops various ways of material exchange by borrowing spectral components of sounds from one category and imprinting them on sounds of the other, and vice versa. This borrowing unavoidably alters the identity of the sounds and enables their transformation. Furthermore, it creates hybridic forms of sound objects, whose original sound world is difficult to be identified.

For the realization of this process Risset used a simple technique. After the generation of the synthetic sounds with the Max Mathews' MUSICV software program, he chose a pitch scale that shares both major and minor characteristics and which does not octave

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<sup>1</sup> Risset, Jean-Claude (2002). "Examples of the Musical Use of Digital Audio Effects", *Journal of New Music Research*, Vol. 31, No. 2, Swets & Zeitlinger, p. 94.

accurately: G-B-E-F#-G#-B-E-F#-G#. This scale is a kind of “identifier” for all artificial sounds that appear in the piece, since all of the artificial sounds are based on this. Risset also extracted a harmonic structure from this scale and placed it in specific spots of the overall form in a way that is easy to follow. The role of this scale is restricted in this function, as *Sud* is not based on pitch development at all. Instead, the pitch elements are set into motion by dynamic sound “fluxes” in a variety of contexts, which change their meaning.

The latter idea concerning the “fluxes” is of high importance for the identity of all sound objects during their transformations throughout the piece. Their relation to their background and the degree of their contrast to it determines this identity. From the relation that is developed we can specify two important features of the object: a) its external and internal profile, along with b) which of its elements belong to the object itself and which are reflections of the background in which it travels.

The idea of borrowing between the two sound categories works in two directions: a) imposition of the scale on the natural sounds and b) imprinting of spectral elements from the external profile of the natural sounds on the spectrum of the synthetic ones.<sup>2</sup> In the way the hybrids are produced, i.e. a sea wave that sounds “plastic” or “metallic” or the other way around, a synthetic sound that has “liquid” elements in its sonority is uncovered. This also adds a new potential to the sounds and creates ambiguity: a sound may remain hidden inside another and be revealed later.

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<sup>2</sup> This is achieved by the electronic technique called *linear predictive coding* (LPC).

The piece is divided in three distinct parts. In the beginning the two sound worlds are presented separately, but soon they start to develop a wide variety of interactions on the above-mentioned framework. These three parts include subdivisions, sections and sub-sections with sound transformations that are not clear-cut. The overall process resembles to sound “fluxes” set into continuous motion. However, the segregation of the piece in these three parts *is* clear-cut because these have clearly identifiable contexts. A general overview of the form can be viewed in the following Ex. 1 (p. 5):

	Part I	Part II	Part III
Structure	Section 1 [0:00-2:53] Section 2 [2:54-5:44] Section 3 [5:45-9:45]	Section 1 [9:46-11:12] Section 2 [11:13-14:14] Section 3 [14:15-15:56]	Section 1 [15:57-17:18] Section 2 [17:19-18:33] Section 3 [18:34-21:09] Section 4 [21:10-24:00]
Context	Forest (rarely replaced by the Sea)	Sea	Forest + Sea

**Ex. 1: Formal plan of Sud**

**1. Formal “Landmarks”**

The reason for the clear distinctiveness of the three parts is that inside this highly versatile and constantly changing environment, Risset has created two orientation “landmarks” for the listener.

**i. Landmark 1: Harmonic structure**

A harmonic structure derived by the pitch scale is spread out in Part III and determines the sonic identity of all sound objects that appear in this part. Although some

hints of this structure exist in the previous parts, the connection is not clear enough. Its first profound appearance occurs in 18:34-19:12.

ii. Landmark 2: Shepard Tones<sup>3</sup>

Risset uses the paradoxical effect of this self-similar sound in order to define the identity of Part II. He imprints its spectral elements on the sea-wave sound, resulting in a natural element sounding artificial. A huge sound mass of a Shepard tone glissando is created in this part. As it constitutes nearly its whole sound material, this profound gesture remains strong in the listener’s memory. Even more than the harmonic structure, these Shepard tones are placed in a strategic spot in the overall form, which can be viewed in the following Ex. 2 (p. 6):

Part	Appearances of the Shepard tone wave	Duration
I	-	-
II	10:11-10:53 11:31-14:23	42” 172”
III	18:34-19:12 22:06-22:44	38” 38”

**Ex. 2: Appearances of the Shepard tone gliss. in Sud**

Its first appearance without any other sound accompanying it occurs around halfway in the piece (at 11:38). Also, the golden section<sup>4</sup> of the work (ca. 14:83) nearly coincides with the end of the Shepard tones’ longest portion at 14:23.

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<sup>3</sup> Named after Roger Shepard, this is a sound consisting of a superimposition of sine waves that are separated by octaves. When the lowest pitch of these tones moves upwards or downwards in steps, it is called Shepard scale. It creates an auditory illusion: this scale ascends or descends infinitely without actually going higher or lower, constantly returning to its initial pitch. Risset created another version of such a scale that glides and is called Shepard-Risset glissando.

<sup>4</sup> For the definition of the term see fn. 41, p. 49 in qual topic I (refers to the paper which this chapter was extracted from).

## 2. Multiple Hybrids: Ambiguity and Increasing Tendency of Combinations

As it was mentioned in the beginning (see p. 3), the final goal of the piece is the merging of the sounds of two different worlds. Especially from Part II and after, the combinations of the hybrids that are created become gradually as many as possible. Because the background is not sonically steady, from a certain stage of the process and after it is not possible to identify the origin of each sound object with certainty and we can only guess. Being aware of the risks involved,<sup>5</sup> I tried to categorize these combinations, as this was possible. From the following table we can see that the combinations have an increasing tendency.

Hybrid category	Part I (sections indicated with numbers)	Part II	Part III
A.	2 + 3	1 + 3	1 + 2 + 3 + 4
B.	3	3	1 + 4
C.		1	1 + 2 + 3 + 4

A = Artificialized natural sounds

B = Naturalized synthetic sounds

C = Hybrids between sounds that belong to the same sound world

(natural + natural or artificial + artificial)

### ***Ex. 3: Hybrid combinations and their increasing tendency in Sud***

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<sup>5</sup> For example, in category C it seems that some sounds of the same world create hybrids (i.e. wind chimes with birds) but I personally cannot guarantee by listening that one of them (or both) does not also have synthetic elements imprinted.

## ***Bibliography***

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