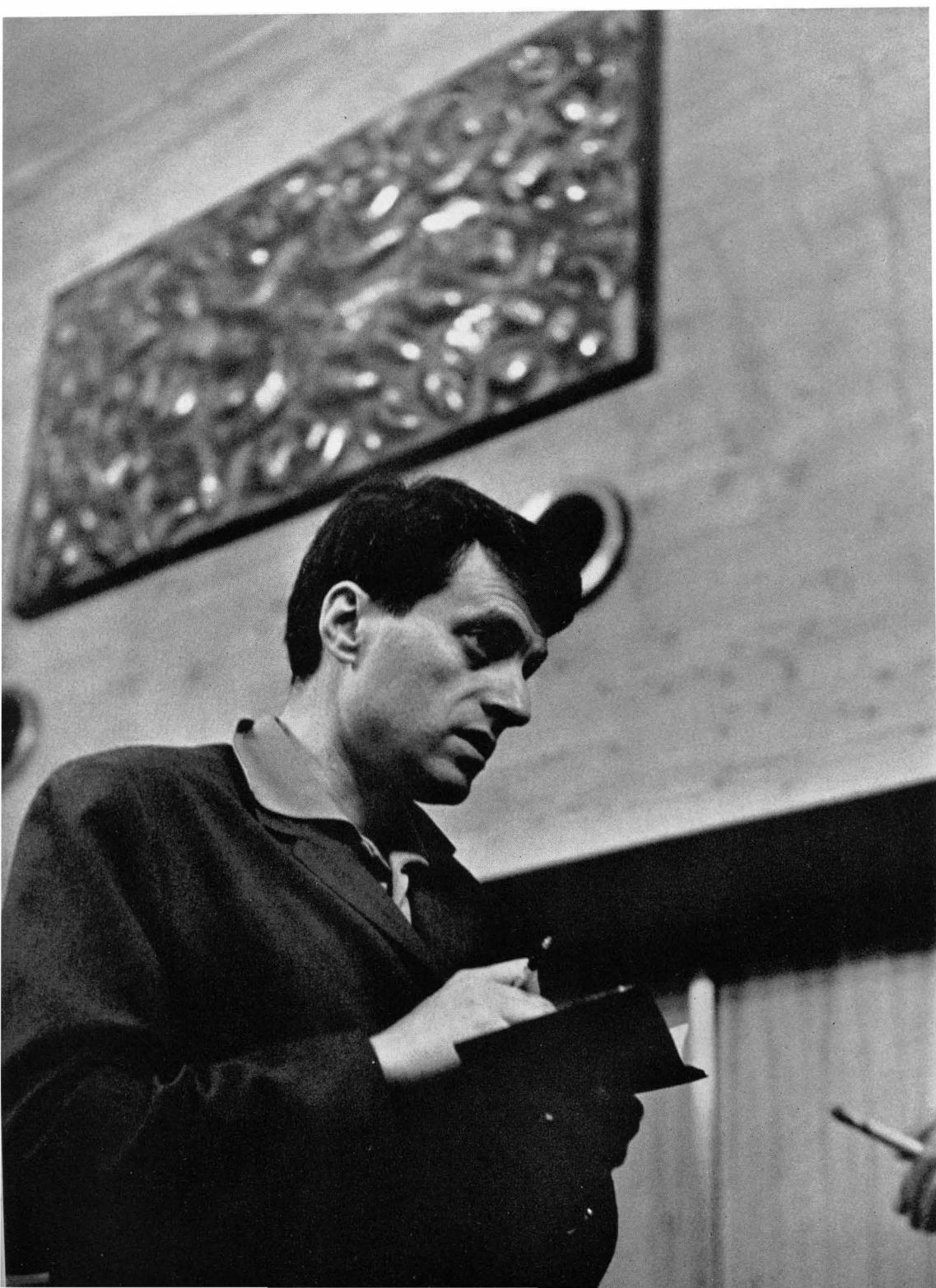


THE RIDDLE OF JAPAN

by Ianis Xenakis



Ianis Xenakis, Greek architect, engineer, and musician, was born in Athens in 1922. He worked 12 years with Le Corbusier, after graduating from Athens Ecole Polytechnique and working in Paris with Olivier Messiaen. He has designed several notable structures including Convent of Lyons and Philips Pavilion. As a musician, he created what is called "Stochastic Music," based on mathematical calculus. His instrumental works include "Metastasis" (1954), "Pithoprakta" (1956), "Achorripsis" (1957), "Analogue A" (1958), "Syrmos" (1959), and "Duel" (1960). He has produced pieces of "electromagnetic music" like "Diamorphoses" and "Orient-Occident." He recently attended the East-West Musical Encounter in Japan.

The sun is still 30 degrees above the horizon and makes the same angle with the axis of the aircraft. Dead tired, the passengers have all curtained their windows to try to sleep. I cannot imitate them.

The space above is of a deep violet blue colour. We fly on impalpable, cotton-like stretches of clouds that take changing and strange hues, from violet and pink to dark red.

Far ahead, on the imprecise horizon, strata of foggy clouds are not compact enough to prevent us from imagining the indigo ocean. It is a cosmic flight. For hours already, the sun has immobilized itself. Jet speed scoffs at the earth's rotation.

Then, it's the climbing down. Several skies pass by and, suddenly, Tokyo Bay invades our windows. The sun has been left behind clouds. It is the evening—full of the question marks raised by this land at the other end of the earth. Seventeen hours from Paris to Tokyo by the polar route...has it really been a proper prelude to this new country?

Do the immensities so full of such extraordinary colours that we have just crossed, and which have no equivalent in the skies of the "Old World," imply another kind of life?

Suburbs—or rather, the city itself—is already here. Here is an immensity of two-storeyed houses, very low, made of dark wood, with ground floors offering shops like those of any other country, with signboards showing indecipherable and dancing ideograms, infinitely variable but with a few identifiable constants.

The old domestic architecture of tiny houses, on a minimum human scale, hiding the secrets of this new world, is bathed in the noise of congested roads, with a lighting more or less comparable to the lighting of any other big occidental city. Oddness is thus pushed back by the motion of contemporary and familiar techniques.

Techniques have made the earth smaller and uniform. The basis? Oil and electricity.

I expected to see extraordinary car bodies created entirely in Japan. It was not so. American cars dominated the picture, and French four horse-power Renaults were earmarked for the cheaper taxi companies. However, creative imagination was bursting in neon signs in the central districts of the city. Night lighting of a modern city is a major means of mass expression. That's why we will focus our attention there for a while.

Roughly, there exist two categories of lighting: one which is to be found in pleasure districts such as the Ginza; the other which includes the advertising of large industrial firms. These latter signs are perched on the tops of ten-storey buildings in the centre of Tokyo around the Imperial Palace, itself surrounded by a wall of enormous, almost cyclopean, stones, lapped by a large moat.

Pleasure signs begin at ground level and occupy two or three storeys on night clubs, restaurants, and shops, and in these narrow streets the play of forms and colours has the brutality of art works created by a community that has run amuck. No lonely brain could ever seek such a richness of expression, and the trials of isolated Western *avant-garde* artists are but pale stammering compared with this tumult.

Why is that so? I think there are three fundamental laws governing such facts: (a) the signs must all and always be visible from both directions in the street, which takes care of the three dimensional tapestry of the neon tubes; (b) technical economy, resulting from the small size of the night clubs and of the shops, necessarily demands smaller signs; (c) but to attract customers forms and colours must vary infinitely, precisely, and without any possible ambiguity.

Since this means density and variation, it also implies music in colours. There we touch upon a fundamental problem of abstract urbanism, laid out on drawing tables, like that demanded by a 40-year-old tradition, which produced nothing but brand-new cities

already dead. A geometrical city born from the best urbanist's brain can never replace the vital push backed by thousands of individual interests and tastes in a community.

In urbanism as in art, the thinker must abandon his static conceptions, reminders of the Renaissance, and, instead, take care of the phenomena and effects created by masses, using the laws governing large numbers. In short, he must deal with statistics and retreat to a calculus.

Cities in Japan, such as Tokyo and Kyoto, offer a visual demonstration for an artist. Of course, the artistic sense of the Japanese people has controlled the artistic flavour of the least.

In contrast, the luminous advertising on large buildings is controlled by the law of greater volume. Huge, spherical, conical, cylindrical structures are illuminated, creating a spatial cinerama which proves that soon visual art will invade the streets of large urban centres.

Tokyo is a true city of light and not only a city where gas lamp-posts have been replaced by fluorescent lamp-posts.

Whether it be in day or night time, the appearance of a city, however, gives only a surface impression. Human contacts are the true key to the central problem of a people and heart of a city.

For my work, I had to get in touch with Japanese musicians and technicians. English was the only vehicle for information. And I was struck by our difficulty in understanding each other. What would have required 10 minutes in the Western world to exchange views needed much longer in Tokyo. I was told that the professional hierarchy could explain this loss of time. This explanation was not satisfying because I had mentioned difficulties in turns of sentences and a fluidity that seemed to reflect Japanese thought. This indication oriented me towards the problem of language. In school, we learn that Japanese has not the Indo-European language structure. I questioned Orientalists who admitted that, although the order of the words in the sentence were sensibly different in Japanese, the logic was basically the same. Translation from Japanese into French or into English, consequently, should not raise such mental barriers. This is largely true. But a serious doubt kept nettling my mind, and here is the dialogue I had with several literary or scientific Japanese and European residents of Japan:

"Is the order of the words different?"

"Yes."

"But the same phenomenon exists in several European languages; for instance, in Rumanian the article is welded at the end of the noun; in German, the verb is at the end of the sentence, and verbal forms can be translated into any other language through nominal forms, forgetting languages such as modern Greek, which still have kept a fluidity which a Frenchman finds deceiving. Where is the difference then?"

"There is a difference. But it is difficult to express it quickly."

"Let us admit it is so. But since we know that Aristotelian logic, and consequently modern logic, has been and still is moulded inside the language, in spite of recent efforts to expel them, could we also suppose that, behind the Japanese language, there remains hidden a fundamentally different logic which has not yet been discovered either by the Westerners or by the Easterners?"

"Yes, we could suppose so."

"If such is the case, would there be, in that, any prospect of the emergence of a science and, consequently, of a technology, different from Occidental ones?"

"Possibly, but it would be impossible to create artificially a process such as the one which required more than 3,000 years in the Western world to result in today's knowledge."

"Yes, that's true, but perhaps that one means of knowledge and

more generally, of thought, could profit from the discovery of a new algebraical structure outside the scope of the Japanese language?"

I heard later, that in Osaka there is a logician who works on these questions. As for myself, I decided to ask the question of logicians in Paris.

It is very simple to admit this hypothesis because of the triple nature of the written Japanese language—one Chinese ideographic and two Japanese syllabic alphabets—which means that a noun, for instance, can be written in several different forms and that, conversely, written Japanese literature can have an infinity of resonances in sounds and images. Such is the difficult but potential richness of the language, due to the fact that there is a lack of precision between symbols, sounds, and thoughts. Through his language and his handwriting, the Japanese finds himself directly in the most advanced climate of occidental thought, where European symbolical and sonorous means of expression can hardly follow.

I recall, by the way, that printing was known in Japan long before typography was invented, as proved by the printing blocks of Buddhist sutras of the Kamakura Period in the thirteenth century, such as exist at the museum of Horyuji Temple near Nara.

The absence of street names and numbers in Tokyo, which is quite surprising for a European visitor, is within the same order of ideas. The principle of classification, through arithmetical order, has been replaced by more immediate geometrical knowledge, to the despair of the U.S. Occupation Forces, which were obliged to import Fifth and Ninetieth streets on wooden posts that still exist after their departure. Nevertheless, I had to change taxis four times before I could reach an address written in Japanese by a Japanese friend, although the four drivers were perfectly able to read. (There are no illiterates in Japan in spite of the three different writings.)

This polyvalence makes the Japanese alert and curious about everything that is new. After the assimilation of art, of culture and religion from China, there follows today a thirst for knowledge that makes the Japanese attentive to any new discovery. We are far from the hypnotic and *blasé* state of Europeans who have said everything and are waiting for no more. This explains, perhaps, the extreme kindness in human relations. At each meeting, it is a renewal of acquaintances which is expressed by a long and respectful ceremony of salutations and bowing.

One day a gentleman introduced himself to me and invited me to visit Kyoto and Nara. I was very much touched by this kind offer, but I objected that, not knowing the language nor anybody at all, my trip would be unrewarding. He immediately offered to accompany me as guide. He made me live Japanese style in Kyoto and showed me around the city. I could not but compare this attitude to the indifference and the self-sufficiency of Westerners who destroy one of the greatest richnesses in man, namely, the possibility to give selflessly. But this was not an isolated case. In particular, two of my friends, one of whom is a young poet and critic and the other a young architect, both *avant-garde*, have facilitated my experiences, during practically my whole stay in Japan, as brothers would have done.

If Europe and, more generally, the West, including Russia, have always been able to create a unique culture monopolized by religion, capital, or state, in Japan several cultures co-exist: Buddhism, Zen, Shinto, Christianity, Atheism, and Science born from contemporary industrialized life.

Traditional arts show this surprising diversity, as well as family habits and architecture do, so that several lives are simultaneously possible in Japan. This co-existential equilibrium has not always prevailed, but today it constitutes an exceptional and probably unique

mood in contemporary history. It could, perhaps, be compared with Hellenic civilization where all religions were accepted, including newly-born Christianity, and where sciences were springing up in a state comparable to the fifth century of the Periclean Period.

The Grecian indented coasts of Japan produce a proximity of past, present, and future which touch and reproduce one another. And pervading all this ferment is the rich character of the Japanese, expressed in traditional architecture, human contacts, cooking, scenic or musical expression, and industrial aesthetics.

One evening, I entered the *noh* theatre in Kyoto (free admittance). On the square stage, men in black or grey-blue uniforms, sitting like Buddhas, recited in unison from a book on a stage polished like a mirror, each holding obliquely a fan, which is a kind of Japanese sceptre giving them the right to speak (it is withdrawn during silences). Sentences are read—monotonously for a Westerner—for hours on end. Slow chromatic ascents, then descents, modulate the texts and, at times, conclusions, which resemble Byzantine psalmodies, punctuate the naked severity of the recital. *Noh* derives from Buddhist chant, so it is not improbable that this similarity comes from an historical relation lost in centuries of Greek-Buddhism. The men's choir alternates with the solo. Then the composition changes. The choir is replaced. A fragile little girl, 12 or 13 years old, wearing a red-and-white blouse and a gown with a blue-grey belt of gold and silver embroidery, in contrast with the severity of the men's uniform, comes and sits silently in front of the stage.

The reading of another book starts with imperceptible variations. Then, abruptly, the little girl takes up the fan and injects her fresh voice, without vibration, at short periods. This economy of method explains the strength of traditional art in Japan.

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Katsura park expresses the same preoccupation but from a layman's viewpoint: respect for Nature and collaboration with Nature. The Japanese do not outrage Nature as Westerners do when they impose geometry on it. The liberty of sites and of forms is channelled here into a composition of several dimensions: three for space; one for materials, pebbles, shingles, stones, earth, wood, lakes, species of plants, coniferous trees, animals, and turtles; one for the shades, flowers, green tints; one for the forms, clearly cubical, of the dark brown buildings laid out along footpaths; and then, a final dimension, the time which leads to the discovery, at every turn, of a new surprise for the senses and for the intellect. Man-made hills diversify the ground and the ponds. Water opens ravines. The sun is gaily and tenderly playing on these natural forms lavishly created by man.

But, if the Japanese respect Nature and work essentially with it without ever violating it, they behave geometrically, severely and nakedly when they build their small tearooms, scattered in the park or palaces. With the use of sliding doors, they have given the interior infinite richness of perspective, far greater and friendlier than ever the greatest masters of contemporary cubic architecture did. The changing plastic effect and the lights filtered through paper partitions should be a rich lesson for architects the world over.

It is very difficult to make the best use of wooden structures with Japanese cedar in temple and pagoda. It is a true acrobatic cascade of the weight of roof and framework. It is an infinite variation of the laws of Archimedes. But such structures are not studied in school. In school they teach us about trellis and Ponlanceau beams. Who will ever study the exceptional lessons on resistance of materials such as are taught at Kyoto's Todaiji Temple or Nara's complicated Horuji Temple?

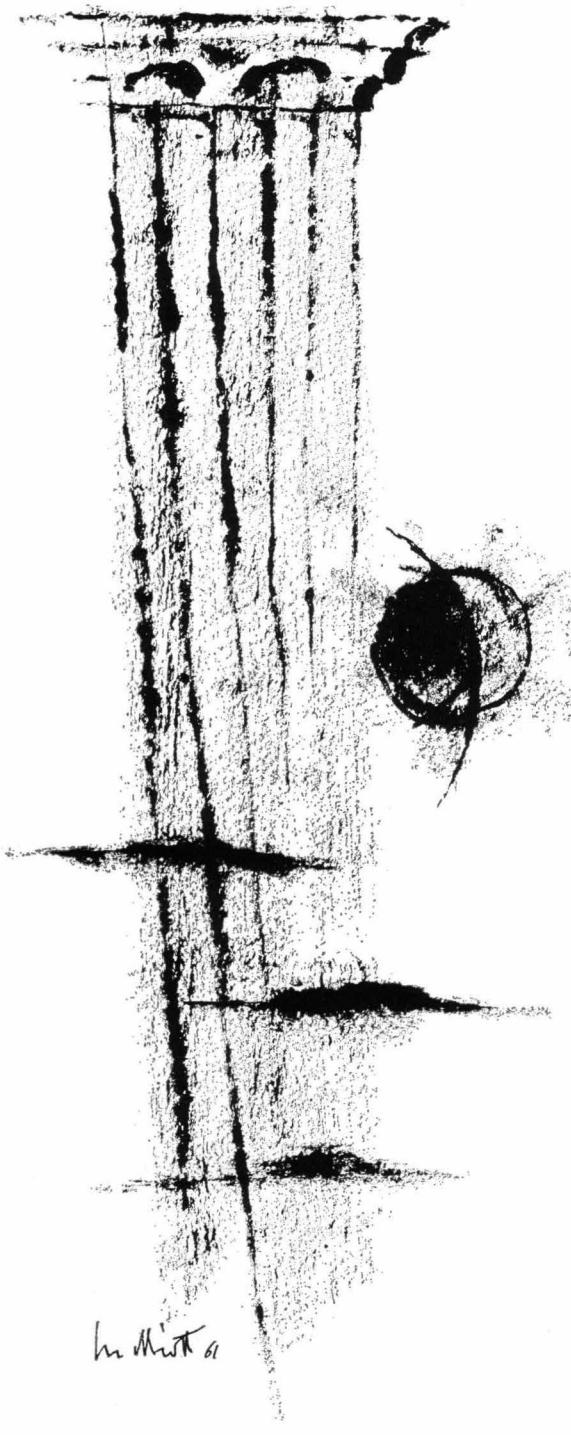
But if music, architecture, and plastic arts generally have not succeeded in shaping means of modern expression, comparably in value to traditional arts, cinema, and industrial aesthetics are of the highest quality. Besides classical pictures, such as *Rashomon*, there is scientific cinema work of which I saw a few samples and where the technical excellence of colour and image, as well as composition, is unsurpassed.

Intelligence—common measure in all arts—succeeds in these films in creating a vital current between the realism of the subject and the "cosmic" abstraction, shall I say, of forms and motion. The result is immediate logic, as in *The World of Microbes*, *Marine Snow*, and *Lubricating Oil* produced by Mr. Sozo Okada.

As for industrial aesthetics, Japanese patience and delicacy have developed technical finish, colour, and shape which strongly compete with European and American products. Tape recorders, transistors, television sets, and home appliances—all these small devils of industrial civilization are perfect, tempting and friendly here, where utilitarian purpose is hidden behind good taste.

Attic vases, vulgar old containers, had greatly helped to establish the Athenian economic supremacy in the Mediterranean world and even as far distant as Great Britain and Germany. Japan, with her small machine-finished products, has conquered a part of the American transistor market, and if Europe is not yet invaded, it is because she protects herself behind high tariff barriers. In Japan, the 1960 electronic production was 300 per cent above that of 1956, and the average yearly index of industrial expansion is 29 per cent, compared with 7.5 per cent for the United States. Of course, this expansion is not without problems. Labour is relatively cheap, and peaceful May Day demonstrations have proved that the workers' world is organized and controlled.

What will be the future of this country where everything is in rapid motion but which has kept its traditional roots so deeply alive?



Drawing by Theyre Lee-Elliott