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In: Bijdragen tot de Taal-, Land- en Volkenkunde 122 (1966), no: 2, Leiden, 274-282

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INDONESIAN COLONIZATION OF WEST- AND CENTRAL AFRICA?

In spite of a substantial body of data indicating that all past and probably all future attempts to establish direct cultural links between Africa and Southeast Asia were so much wasted effort, there remained a few isolated, unaccounted-for phenomena which seemed to contradict this pessimistic conclusion, making anthropologists feel a little uneasy in their otherwise stony denial of any such cultural contact. — That is, if they took the trouble of giving the problem a second thought! Diffusionist theories have lately lost much of their initial appeal.

The reason for this occasional uneasiness was that the disturbing phenomena came within the field of *music* (regarded by some sociologists as being too specialized a subject to have anything to do with) and that moreover the theory of culture contact was supported by leading authorities in the field, such as VON HORNBOSTEL and KUNST.

Now Messrs. Brill have published a book which finally dispels all remaining doubts: *Africa and Indonesia - The Evidence of the Xylophone and Other Musical and Cultural Factors*,¹ by A. M. JONES.

Although this is in fact the book's greatest merit, it should in all fairness be noted that this is far from the author's intention, since he aimed at proving the reverse, namely that:

at some time long before the Portuguese appeared in the Southern Seas, the coasts of Africa were visited by Indonesians. This was no case of a forlorn boat-load or two of storm-tossed mariners driven before the monsoon and wrecked on the African shore. Rather, one has to envisage an Indonesian influence on a considerable scale, an influence whose surviving traces indicate a long period of colonisation reinforced by successive migrations from more than one part of Indonesia, and the indications are that the areas of Africa which became the focal points of this colonisation were the Niger basin and the Congo basin. Whether the evidence we shall produce is patent of any other explanation, the reader himself may judge (p. 2).

¹ Leiden 1964. 248 pp., 65 ills. on 27 plates. Price fl. 36.—.

Jones further states that the time-span of this supposed Indonesian colonisation took place between "round about the end of the first century A.D." and "the middle of the first millennium A.D." (p. 224-5), i.e. between 100 A.D. and 500 A.D.

Jones rests his case almost entirely on his studies of the xylophone and everything he regards as connected with this musical instrument. His methods — in his own words — are based on: (a) comparative analysis of known tunings of 212 African and 99 Indonesian xylophones (Kunst's 85 gamelan tunings from *Music in Java*, 1949, included); (b) comparison of types of xylophones, their construction and the way they are played; (c) comparison of xylophone terminology; (d) analysis of other musical instruments and practices, viz., the drum xylophone, clapperless bells, bar-zither with gourd resonator, choral singing in parallel thirds, certain other musical terms; (e) exploration of non-musical material, such as (inevitably) shipping and canoes, the 'board game', bellows, *pelangi*-dyeing, decorative patterns, physical traits, faces and body-postures of bronzes and stone statues, words for several metals, tribal customs, fishing methods, tools and botany.

A glance at the section devoted to non-musical material (it covers 51 of the book's 248 pages) shows a multitude of the pitfalls which await the searcher for proofs of intercontinental cultural influence. The author has missed none.

The main focus of the book, however, is the comparison of African and Indonesian xylophones, all other arguments serving as support for Jones' far-fetched xylophone theory. We shall therefore turn directly to the author's exhaustive musico-technical investigation of this type of instrument. The importance of the problem and the endless care which Father Jones took in carrying out his study compel the reviewer to take an equally careful look at his method.

First, two very general objections:

- i) Throughout Jones uses the word 'Indonesia' in an intolerably wide sense, covering not only the whole Malay Archipelago, but also Burma, Thailand, Cambodia and 'Indochina'.
- ii) He uses 'xylophone' not only to mean xylophone, but also metallophones of the *saron* and *gendèr* type, to which are added — at random — *sanzas* and even gong-chimes (*bonang*).

Apart from this, how far does Jones meet the exacting standards demanded by the historian of comparative culture?

A. The principle of *quantity*. As has been suggested before, Jones amazes us, after a well-tried recipe, with far-fetched "similarities", each of which he admits to be inconclusive or even questionable. Yet he argues that by piling these inconclusive "resemblances" on top of each other, one obtains striking clues which cannot possibly be neglected. This argument seems highly dubious in itself — but we shall go on. For does not the complete absence of similitude, in the areas compared, of key-words for the aspects and objects of man's daily life, a man's body, his food, his kinship terms, his livelihood and his natural surroundings, deprive Jones' arguments of any plausibility? Or does he wish us to believe that his supposed Indonesian invaders and their African hosts of the first millennium spent their time solely in sailing, gambling, dancing, and playing music? This is the conclusion to be drawn by Jones' method from the evidence he produces.

There is also something basically wrong in his total lack of any sense of change through historical time. Though he admits that fifteen centuries of completely divergent history have elapsed since this 'colonization' period, he assumes that the *end-products* of these centuries of separate development can be used *ipso facto* for comparative purposes. (NB. These end-products are the highly specialized and constantly changing tunings of musical instruments!)

B. The principle of *continuity*. Jones' theory of an Indonesian colonization of West Africa presents even greater difficulties. Instead of simply confining the 'colonization' to Madagascar, the African mainland opposite and parts of the East African coastline, he makes far greater claims, even though the connection between Indonesia and Madagascar itself rests on very tenuous evidence. Without checking to see whether there was any penetration of 'Indonesian' influence into the African interior, or whether there was any influence from West Africa (or East Africa) to Madagascar, he insists that his Indonesians sailed round the Cape of Good Hope (probably not impossible, technically speaking) and then sailed northwards up and past the Congo and Niger rivers to the Guinea coast. For someone with this vision of the travellers of the first millennium A.D., it is not in the least surprising that no musical or other evidence of cultural influence presents itself between Madagascar and the area eventually to be colonized in West Africa, some 4,000 miles away.

C. There remains, however, a third criterium, the principle of *form*, to which Jones gives the fullest attention, perhaps to compensate for

a lack of convincingness on the aforementioned points. Even here, however, grave errors have been made, which are perhaps less easily detected since they are couched in the esoteric language of scales and tunings — the musicologist's magic kit.

It is very difficult to give a clear and readily comprehensible criticism in this area, and the plethora of material presented makes it hard for the reviewer to know where to start. But an attempt should be made, at the very least out of a deep respect for Jones' painstaking analysis of more than 220 tunings. Of these he recorded and measured 26 himself, while the others were mostly assessed by Erich von Hornbostel (26 instruments measured), Hugh Tracey (22) and, by far the most, Jaap Kunst, who put all his precious manuscript material at Jones' disposal (150!).

How does Jones approach this material and where does he fail?

Technically, the tuning of an instrument means *the intentional pitch of an instrument's sounding parts*, e.g. the strings of a piano or violin, the membrane of a drum, the air-column in a flute, or the keys of a xylophone. The instrument-maker or the player himself carefully gives these sounding parts of his instrument the various necessary tensions to make them conform to his or his group's musical ideal. The pitch of any given note can be expressed numerically on a scale which runs from 16 at its lower to more than 20,000 at its upper end, indicating the number of audible vibrations per second of the sound-producing body. The particular number is found by counting (mechanically, of course).

If one says, "This tuning fork has a frequency of 440 v.p.s.", this means that its ends swing to and fro 440 times per second when set vibrating by being struck. The same computation can be applied to a key of a xylophone. The measurement of a complete xylophone results in a series of vibration figures, one for each key of the instrument.

It is clear that the counting method, called 'measurement', should be as exact as possible if it is to be used for acoustical analysis. Modern technology has made the human ear no longer indispensable to this measuring process. By means of a Stroboscenn or an oscillograph, the precise number of vibrations per second can be made visible and therefore countable, whereas older tone-measurements had to be taken with devices adapted to the very subjective and unreliable human ear. Accordingly (a) once a stroboscopic measurement is performed it is definitive. Under identical circumstances all stroboscenn-measurements of a single instrument will be identical. (b) Older methods (tuning

forks, tuning pipes or monochords) cannot and did not produce 'definitive' results. No two such measurements of the same instrument are ever exactly alike. At best these older methods may reveal remarkable resemblances between tunings, but no definite conclusions may be drawn on this basis except in the most general terms. Therefore this also implies that each individual older measurement is unreliable because it is inexact. Jones of course recognizes this problem. But he writes: (p. 52)

Before going any further we must establish our *bona fides*. Obviously the easiest and slickest way to demolish the whole musical thesis is to impugn the validity of the tunings (= measurements. EH), especially those of Jaap Kunst who has contributed by far the largest number. We accept the challenge.

So do we, not to criticize Kunst's remarkably accurate measurements, but to demonstrate that it is impermissible in assessing Jones' ultra-technical laboratory methodology, to ignore even the most minute 'deviation'.

Jones attempts to show the validity of the older measurements (which comprises 89.9 % of his basic material, his own 26 measurements being the only ones arrived at electronically!) by producing two measurements (by Hornbostel and Kunst respectively) of the same five instruments, and stressing how astonishingly little, in his view, they differ. In fact, of course, a close look at even one pair of measurements reveals the hardly surprising discovery that these measurements, taken twenty-five years apart (from an instrument in the Musée du Conservatoire, Brussels) are far from identical. They are indeed perhaps close enough to indicate general 'trends', but they are certainly absolutely untrustworthy for precision analysis.

For example, Hornbostel measured two successive notes of this xylophone as having 214 and 235.5 v.p.s. Kunst, however, found 216 and 230 v.p.s. for the same notes. For Jones this is sufficient: he leaves it at that without considering an important factor which deprives his thesis of all its initial plausibility. For in Kunst's measurement the interval between these notes amounts to 109 cents² whereas in Hornbostel's case it is as much as 162 cents, a difference of no less than 53 cents! Now normally, two measurements are allowed a deviation of 4 or 5 cents and may still be considered identical. A differ-

² The distance between two notes is often expressed in *cents*. An octave 'is' 1200 cents, a semitone is therefore 100 cents, a whole tone 200 cents, and so forth.

ence of 53 cents however, i.e. about the very critical quarter-tone interval, is hard to swallow.

Another example. Taking a complete scale from the table produced by Jones (p. 52, xylo. 7) to demonstrate the reliability of his basic research material (the measurements), one extracts the following (interval by interval) divergencies between two seemingly almost identical measurements (by Hornbostel and Kunst) of the same Sierra Leone xylophone, expressed in Cents. While even minimal deviations of less than 5 Cents should urge the researcher to great caution, Jones does not hesitate to use as his paradigm the Kunst measurements, which, however, deviate from Hornbostel's in the following astonishing way: —15, +18, +16, —41, —43, —9, —44, —25, +5, —16, +7, —30, —18, —33, —3 and + 14 Cents per interval!

Only one conclusion can be drawn: any results obtained from arithmetical calculations based on this shaky material should be regarded with the greatest scepticism.

Consequently, there is no serious indication at all that: (p. 82)

the fact remains that Africa does contain the Javanese *pèlog* sequence of intervals which is *sui generis*, and is a very distinctive scale. And further, that in the great majority of cases this special sequence of notes lies on the same average pitch in Africa as it does in Java. On both sides of the Indian Ocean the pitch of *pèlog* is about 192 v.p.s. and this means that the pitches of all the other notes of the scale are equivalent.

In fact in neither area is this '*pèlog* scale' very consistent, the relative and absolute pitches vary too much to justify any such general statement.

Furthermore, it is quite unacceptable to say that: (p. 52)

we can conclude from these foregoing tables, that Africa uses the same Equitonal Heptatonic Scale as the Indonesian mainland (*sic!*).

Evidence produced points to at most four or five such instances, which for that reason should not be regarded as proving that "the Indonesians brought the scale to Africa, where the Africans copied it."

Now a third scale pops up (in Africa), this time having only 5 notes to the octave. It can therefore be called pentatonic. In Indonesia one has the well-known 5-tone scale *sléndro*, whose notes are often said to lie at equal distance from one another. However, it should be noted that Javanese musical *practice* shows no such precise equidistance: *sléndro* clearly shows two greater and two smaller intervals. Kunst was well aware of this "rubbery" character of *sléndro*. Nevertheless Jones pursues his ideas by stating: (p. 109)

Taking the African instruments as a whole (34 measurements) and *allowing for the rough and ready conditions* under which the craftsmen worked, are they not all apparently aiming at the Equipentationonic Scale [= 'sléndro']? (italics EH).

No acoustical arguments have been brought forward which might induce one to accept this. It is perfectly all right to designate a given Javanese *composition* as being 'in pelog' or 'in sléndro'. The gamelan *orchestra*, however, which is to render it consists of a collection of very different musical instruments, each having a specific musical function and a tuning which slightly but significantly differs from the others in the same orchestra. So if one measures only *one* instrument from the gamelan orchestra one is liable to find a perceptably different measurement than if one takes another. This is the case not only with the Javanese, but also with the Balinese gamelan. However, we had perhaps better leave this still quite unexplored terrain (correlated to the Javanese musical conception of *embat*) until electronically assessed measurements are made available. We are therefore not inclined to agree with Jones final statement on the tunings: (p. 118)

What emerges from our study is not a mere matter of one or two discrete cases of identical procedure; rather we have uncovered a whole complex of musical thought and musical practice all of which is combined and crystallised out in the xylophones themselves. Each xylophone is, as it were, a representative of a whole musical complex, and that complex is the same both in Indonesia and Africa. In view of all this, either one has to admit that by some miracle of nature, two such very different races as the Indonesians and the Africans have independently conjured up the same total complex of musical thought, and expressed that thought in the same material form, or one has to admit that one race has learnt from the other. (—) We conclude that it was the Indonesians who brought the xylophone to Africa.

Our denial of this whole thesis is, I believe, *not* based on an effort to be scrupulously 'scientific' as to shut one's eyes to the available facts because they constitute a probability and not a water-tight proof (p. 119).

Jones has collected and reproduced all kinds of facts related to tunings, pitches and scales of African and Indonesian xylophones (and some other instruments), which he has interpreted in such a way as to present a superficially plausible argument for cultural relations between West Africa and Indonesia. What other facts he produces in the musical field cannot be taken very seriously. Had he ever *heard* live Javanese gamelan music³ or watched Javanese musicians play, he would not have dared to make such statements as "the practice (of

³ Outside Indonesia the first record with Javanese gamelan music was issued only recently by Philips (Netherlands) nr. 631 209 PL, mono, (= 831 209 PY, stereo). It will be reviewed in one of the next issues of this journal.

putting the lowest note next to the highest note as is found on many African xylophones) is usual on the Javanese *bonangs*." This is not a question of cultural influence but pure and simple practical matter which allows the bonang-player to play the notes 5, 6, 1', and 2' smoothly in quick succession, which practical point might be equally valid for the African musician. Nor can the use of resonators with xylophones ever be used as a criterium of cultural affinity. A resonator (be it gourd, bamboo, or even a hole in the ground) simply serves to improve the tone, to prolong it. There are only a few ways in which they can be attached to the keys, therefore in both areas compared these methods are essentially the same. These similarities are brought about by local musical *practice*. Likewise semi-circular forms occur in both areas (African xylophones and Thai gong chimes), but this too is a purely practical matter with very large instruments whose first and last keys would otherwise be out of reach of the player's hands. — Not mentioned by Jones but to him perfectly suited as a tool for comparison, is the practice of *two* musicians playing simultaneously on a 'xylophone' as is known in Java. Sometimes two persons put a saron between them and play the keys in quick alternating succession, just for fun.

A detailed comparison of a Javanese slendro gamelan and a Ganda *Akadinda* ensemble can only be made in the very broadest terms. Jones could with as much profit have chosen the Royal Philharmonic Orchestra as his basis for comparison.

What is one to say of the Malgache moustache that he glues on to the Ife bronze head (ill. 62 & 63)? And of the triple-strand design occurring, not only in the two areas compared but also in Keltic, Roman, Carolingian, Amerindian, and Polynesian decorative art? Or the similar stature of Khmer and Ife bronzes (while Europe in the Middle ages produced wooden statues at least as similar, — or dissimilar)? Jones' effort of linking the Andangme (Ghana) concept of *klama* to Javanese *krama* on the grounds of both 'languages' or 'vocabularies' being used for the same purpose (texts for classical songs, but not exclusively so!), speaks for itself.

It is sad that a study like this has been published at all. Jones' life-long dedication to the music of Africa has produced an outstanding series of published works which are all important contributions to our understanding of this part of Africa's culture, his much appraised *Studies in African Music* (1959) need only to be mentioned here as an example. But this *Africa and Indonesia* does considerable harm

to the author's great reputation as a leading scholar in the field of African musicology.

Still worse, for the young science of ethnomusicology, it puts the clock backwards some fifty years.

Amsterdam

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