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Project for a New Classification of Musical Instruments

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Editors' Preface

Margaret Kartomi, in her classic monograph *On Concepts and Classifications of Musical Instruments* (Chicago and London, 1990), highly praises André Schaeffner's attempt at a new classification:

"Unlike the Hornbostel and Sachs classification, Schaeffner's scheme has not been translated into English and has had little impact outside France. Its comparative novelty or, in other words, its lack of continuity with past classifications, the greater prestige of Hornbostel and Sachs as scholars, and the greater exposure of Hornbostel and Sachs's classification mediated against the widespread acceptance of Schaeffner's scheme, despite its elegantly logical quality." (1990:176)

We would like to close this gap by presenting this sketch along with its more extended version entitled, "About a New Systematic Classification of Musical Instruments," originally published in 1932.

To Mr. David Weill

In an upcoming study, which shall appear in the *Revue musicale* (Paris), we hope to elaborate in detail on the motifs which led us to abandon the classification devised by Victor Mahillon (1880) and taken

up by E. M. von Hornbostel and Curt Sachs (1914). Apart from the well-established but imperfect distinction between string, wind, and percussion instruments, this classification has remained the only one adopted by ethnologists. The classification by Mahillon and those of his successors had the advantage of appreciating the existence of musical instruments which, while not string or wind instruments, could not necessarily be filed under percussion instruments. However, even though the distinction between *membranophones* and *autophones* (or *idiophones*) marked real progress in non-European organology, it did not appear to us that a classification based more or less on difference of the modes of vibration of the musical instruments could be considered as meeting the strictest methods of ethnology and prehistory. We believe that the grouping should be based on elements that are immediately recognizable and essentially undisputable. Further, it should not be based on any evidence that history may not have preserved or that, being contradictory or too complex, does not offer any distinctive value. Now, what could be easier than to determine the actual material of the body which is primarily set in vibration independent of the procedure or procedures employed to make it vibrate as well as the devices attached, for instance, to intensify the sound? And does not the actual quality of the *timbre* specific for each musical instrument or family of instruments stem from the material of the vibrating body (stone, wood, bone, metal, air, etc.)? Hence, does a classification, based on the selection of that material and that timbre, not better distinguish which sensory nuances reflect the diversity of musical instruments? If a resonator or mute seems to be capable of not only augmenting or diminishing the intensity of the sound of the instrument but rather of modifying its essential timbre, it is all the more necessary to acknowledge what is immanent in and emitted by the body which is primarily touched. Accordingly, the first term of a classification should be determined thereupon. Finally, the geographic distribution of musical instruments, based on the material of their vibrating bodies, would underscore the relation between these instruments and the other products of a certain culture area. Thus, metallophones appear where metal working is practiced; the rattling devices made of shells or fruit skin are linked to the coast or the land...

In the announced study, we are going to elaborate on each of these issues and try to justify comprehensively the terms of our classification. Here, we present this classification for immediate criticism and suggestions on behalf of the readers of the Bulletin in the form of the following table without further commentary.[1]

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[1] Bibliography: V. Mahillon, *Catalogue descriptif et analytique du musée instrumental du Conservatoire royal de musique de Bruxelles* (Gand, 1880; 2nd ed. 1893); E. M. von Hornbostel and C. Sachs, Systematik der Musik-

I. – Musical instruments with solid vibrating body

a) Vibration of a solid body, not susceptible to tension, and with *invariable* or *indeterminable intonation* (prototype: the human body)

stone	struck directly (*Aufschlag*, *striking*)	stone chime (lithophone)
	struck against each other (two vibrating materials, *Gegenschlag*, *clapping*)	
shell	struck (e.g., by a stone beater) or struck against each other	necklace, bracelet, belt or anklet of shells; cymbals of bivalve shells
bone	struck directly	
	struck by shaking (*Schütteln*, *shaking*)	jaw of ruminant, carapace of a turtle filled with seeds
	scraped (*scraped* or *rattled*)	*omičikawastli* (Mexico)
wood	struck directly	stomped, pushed or beaten plank; wooden drum [woodblock, slit drum], Mexican *teponastli* [teponaztli] with two tones; set of slabs (xylophone, balafon or marimba, Javanese *gambang* without resonator, with box resonator or with individual resonators for each slabs)
	struck against each other	two beaters arbitrarily or in time; Burmese *valetkiot*; castanets, wooden cymbals, clapper; necklace, brace-

instrumente (in *Zschr. f. Ethnologie*, 1914, vol. 4/5); Dr. G. Montandon, La généalogie des instruments de musique et les cycles de civilisation (in *Archives suisses d'anthropologie générale*, III-1, 1919, special edition); W. Kaudern, *Musical Instruments in Celebes* (Gœteborg, 1927).

		let, belt or anklet of fruit skin
	struck by shaking	dry fruit with seeds; bamboo tube, wooden or basket rattle with seeds or pebbles; Javanese *angkloun*
	grated (*grated*) or scraped (*scraped*, *rattled*)	toothed stick; toothed wheel (ratchet); Portuguese *reque-reque*; Antillian *guiro*; instrument with piston*
	plucked (*gerissen*, *struck* or *pulled* with the fingers)	*zanza* with rattan keys; Jew's harp
clay	struck directly	*jalatharangmi* (China)
	struck by shaking	clay jingle; vessel containing seeds or pebbles
	scraped	
	rubbed with a bow (*gestrichen*, *rubbed*)	
metal	struck directly	triangle; tuning fork; gong; modern tam-tam; bell without clapper; set of plaques (metallophone with box resonator or multiple resonators; celesta)
	struck against each other	cymbals; necklace, bracelet, belt or ankle bells with metal pellets or jingles; rings, metal castanets
	struck by shaking	metal rattle; sistrum; jingle; bell
	plucked	*zanza*; music box; metal

* [It could not be determined which instrument Schaeffner is referring to here.]

		Jew's harp
	rubbed	tuning fork, "iron violin" [nail violin] (*Nagelgeige*)
glass	struck	
	rubbed	crystallophone [glass harmonica] (*Glasharmonika*)

b) Vibration of a solid body, under *tension*, with *variable intonation*

bark spread and tensioned by wooden bridges.		
	struck	dulcimer ["cithare-tambour"] (*krumba* on the isle of Nias)
	plucked	*valiha* (natural cylindrical zither); Guinean musical bow with bark split in several strings
membrane 1. Fixed on a frame (contracted, glued, tied, pegged, nailed; on skullcap, wooden cylinder, clay, metal cylinder)		
	struck directly	tambourine, drum
	struck by shaking	pellets enclosed between two membranes
	struck by air blast	mirliton, phonograph
	rubbed by a stick piercing the membrane (or set in vibration by pulling the strings attached to the membrane)	
2. Tensioned on a frame by laces (on wooden cylinder or metal hemisphere).		
	struck directly	drum, kettledrum
string (of vegetal fibre, animal hair, gut or metal wire); struck, plucked, rubbed 1. Tensioned by hand, by a neck, a frame or a sound board		
	open string	Hindu monochord; musical bow, bow lute

		[pluriarc] (with several necks); Chinese harp; concave zither of German East Africa; Ethiopian *kissar*; *kasso* of Senegambia
	string tensioned over bridges	monochord; Japanese *takigoto*
2. Tensioned *over* a neck, a frame or a sound board		
	by tuning pegs, without bridges	cymbalum, *unfretted* clavichord, piano; harpsichord, harp, lyre, zither
	by tuning pegs and *over* bridges or with fingerboard on the neck	trumpet marine, monochord, guitar, lute, *fretted* clavichord; violin, Chinese khin, hurdy-gurdy

II. Musical instruments with vibrating air

a) Vibration of *ambient air*

by lash or direct friction of the air	whip; buzzer, bullroarer, humming top, ventilator, siren
by reed, with or without protective tube	tuning pipe and mouth organ; harmonica; accordion; harmonium

b) Vibration of an *air column* (tube of reed, bamboo, bone, stone, metal, glass, etc.)

tube *without reed*		whistle; ocarina; flute; flageolet; pan flute; set of organ flue pipes; barrel organ
tube and *natural reeds* (vibrating lips)		natural horn, conch; horn; trumpet; trombone

tube and *reed*:		
	double reed	aulos, tibia; crumhorn, oboe, English horn; bassoon
	single reed	clarinet; saxophone; bagpipe

Diverging instruments or instruments with complex vibration (exceptions from our classification)

1. Variations:	
tensioned metal blade	saw rubbed with a bow or struck with a hammer
non-tensioned membrane	skin struck directly (piece of leather between the thighs, leather roll stuffed with rice husks {China}) or shaken (leather pouch filled with gravel)
2. Complex sonority:	
accompaniment by other timbres	tambourine with struck membrane and shaken metal disks; Oceanian drum with struck membrane and set of shaken fruit skins, etc.
the striking object itself emitting an own sonority	drum struck with metal brush; Antillian and Central or South American *maraca*
3. Two vibrating materials	Negro or American drum with both membrane and resonator being struck; Arab *bendir*, etc.
4. Double instrument	claviorganum [épinette *organisée*]

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