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The *Melakarta*s and the 'République Modale': Naturalizing Indian Scales in French Musical Modernism

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Abstract The zeal for 'modality' in French modernist composition drew sustenance from the Indo-European hypothesis (or 'Aryan myth') of a linguistic-turned-'racial' patrimony linking India, Greece, and Europe, prevalent in Francophone intellectual, including musicological, discourse. Against this backdrop, the central case study traces how the Karnatic *melakarta* system of *rāga* classification travelled from Southern India, via British imperial networks, to French universities and conservatoires, whereupon it found widespread interest among composers and pedagogues including Roussel, Emmanuel, Tournemire, and Dupré. Yet the *melakarta*s' enduring imprint upon French music is found not simply in the use of individual scales, but in the premise of a fecund 'modal republic', inspired by the system's generative logic and resonant in the rationalized modalism of the 1920s and '30s, including Messiaen's 'modes of limited transposition'. The article concludes by proffering a novel conceptualization of the entanglements between Karnatic and French scale systems (and epistemologies of music) in the early twentieth century.

When Claude Debussy suggested that his friend, Victor Segalen — author, world traveller, famed apologist for 'exoticism' — write about 'Hindu music', Segalen replied eagerly: 'Of course there is much to say about Hindu musics that has never been said.'[1] Segalen had recently solicited Debussy's musical collaboration on a text dramatizing the life of Siddhartha. He continued: 'First of all, we must let go of all our prejudices about sound.' Yet in his struggle to convey the vast diversity of Indian musical 'dialects', Segalen directed Debussy's attention toward a narrower target: 'It would be better, I imagine, to focus on a music assumed to be beautiful and homogeneous by reason of caste and ritual necessity: the music of the Aryans of Vedic India […] One would have for one's material an age of very noble allure: not

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[1] Victor Segalen, letter to Claude Debussy, 17 April 1904, in *Segalen et Debussy: Textes recueillis*, ed. by Annie Joly-Segalen and André Schaeffner (Éditions du Rocher, 1961), p. 59.

too strange to our thinkers, because Aryan, not too familiar because distant in space and time.'[2] Debussy demonstrated interest in aspects of Indian music over the ensuing years, most notably through his 1913 encounter with the touring Sufi musician Inayat Khan (although the imprint of this contact on Debussy's music is disputed).[3] Ultimately, though eager to collaborate with Segalen, Debussy felt daunted by the dramatic challenges posed by Siddhartha's impassibility, and counter-proposed an opera based on Segalen's telling of the Orpheus legend; this too came to naught.

If Segalen's letter conveyed little concrete about Indian music, his comments encapsulate the ambivalent cultural significance of India — more precisely, Hindu India, for reasons to become clear — in early twentieth-century France. On one hand, the experience of Indian music for the French subject was, like any unfamiliar cultural product, marked by initial estrangement — potentially requiring a suspension of prejudice, or potentially more alluring for its 'difference'. On the other hand, Indian music bore a particular, apposite significance for the French subject, on account of an 'Aryan' heritage — that is, 'race' — presumed, by many at the turn of the twentieth century, common to both India and France. The attraction of ancient Indian music lay in this perceived duality: radical aesthetic novelty underpinned by fantasies of deep kinship.

In this article I examine how this ambivalence toward 'India' in the French consciousness — suspended between idea(l)s of alterity and ancestrality — motivated a significant current in modernist composition. Broadly, I weave together two main strands, both extending into the nineteenth century, to grasp how and why the reification of 'Indian modes' in French musical discourse led to their emergence in 1920s and '30s as a key compositional resource across stylistic and generic contexts, from the opera house to the organ loft.

The first strand concerns the importance of so-called 'modal' composition to post-Wagnerian French musical identity. Musical modality — which in turn-of-the-century French contexts generally (if reductively) meant scales beyond major and minor — coalesced around variously nationalistic discourses of ancient, ecclesiastical, and folk music. Fuelled by reactionary (Germanophobic) anxieties about bloated chromaticism, modalism came to infuse French compositional practice more broadly and flexibly by the interwar period, culminating in a compositional approach Benedikt Leßmann terms 'modalité libre' ('free modality').[4]

[2] Ibid., pp. 59–60.

[3] See Roy Howat, 'Debussy et Les Musiques de l'Inde', *Cahiers Debussy*, 12–13 (1988), pp. 141–52.

[4] Benedikt Leßmann, '"L'Anachronisme le plus musical": L'Accompagnement du plain-chant et l'idée de modalité libre en France dans l'entre-deux-guerres', *Revue de musicologie*, 105.2 (2019), pp. 357–395 (p. 359). For an overview of 'modality' in France, see Henri Gonnard, *La Musique modale en France de Berlioz à Debussy* (Champion, 2000). I use the term 'modalism' to acknowledge the constructed nature of 'modality', complete with ideological baggage (see Harold S. Powers, 'La Modalité, une construction intellectuelle de la culture européenne', *Analyse musicale*, 38 (2001), pp. 5–15).

The second, less familiar, strand concerns the legacy of a century of comparative philological scholarship concomitant with the formulation of the Indo-European hypothesis — or 'Aryan myth'[5] — prevalent in *fin de siècle* European intellectual and cultural consciousness, and discussed in greater detail below. The focus on the imprint of the Indo-European hypothesis upon cultural production requires expanding analysis of French appropriations of Indian music beyond the critiques of aesthetic representation that have dominated musicological studies of orientalism, to encompass a broader critique of scientific knowledge production. Such a stance remains attuned both to contexts of nationalism and colonialism and also to epistemic structures and practices — in this case those of philology and emergent musicology — that reinscribe nationhood and coloniality into the construction of modernity.[6] It is in its focus on the interplay between intellectual and cultural production that this analysis diverges from prior accounts of French representations of India. It is one thing to observe, for example, how Indian dramatic, literary, or religious texts nourished French romanticism.[7] But such points of contact form only a small proportion of how the Indo-European idea — and crucially, the concomitant paradigm of philological comparativism — drove artistic techniques and priorities in ways both more subtle and more enduring.

The case of Indian scales in French musical modernism offers a rich arena in which to attempt such an analysis. Resisting the interpretation that Indian 'modes' were frictionlessly 'borrowed' by French composers in the early decades of the twentieth century, I instead emphasize how the epistemology and praxis of philological comparativism drove musical modalism as a formal and identitarian doctrine over the *longue durée.* Philology's distinct mediating force manifested, I argue, in intertwined processes of racialization — the alignment of ancient India along an 'Indo-European' continuum — and rationalization — the atomization and reification of musical forms via 'structural' analysis. Treating isolated scale structures as the comparative philologist treated verbal roots, musicologists compared Indian 'modes' to Greek or medieval lookalikes through quasi-philological techniques. Through this concerted process of rationalized abstraction, Indian music circulated in modal tables, attractive to composers as a source of 'raw materials' — the 'local colour' of musical transcriptions exchanged for the supposed immanent structures of a racialized 'Indo-European' musical patrimony. The inextricably dual aspect of comparative philological mediation of musical forms — rationalization and racialization — allowed the musicologists and composers discussed herein to regard Indian music not as a source of radical aesthetic difference, but as 'structurally' assimilable to ancient Greek music, and by

[5] Léon Poliakov, *Le Mythe aryen* (Calmann-Lévy, 1971).

[6] For a related appeal, see Sindhumathi Revuluri, 'Orientalism and Musical Knowledge: Lessons from Edward Said', *Journal of the Royal Musical Association*, 141.1 (2016), pp. 205–09, doi:10.1017/S0269040300013396.

[7] See, e.g., Raymond Schwab, *La Renaissance orientale* (Payot, 1950); Jean Biès, *Littérature française et pensée hindoue: des origines à 1950* (Klincksieck, 1974); Claudine Le Blanc, *Les Livres de l'Inde: une littérature étrangère en France au XIXe siècle* (Presses Sorbonne Nouvelle, 2014).

extension plainchant and French folk music — an emergent 'Indo-European' continuum along which Indian music appeared less an 'exotic other' than a 'classical past'.[8]

It is a complex story to tell, encompassing transnational (including transimperial) networks spanning multiple centuries, bridging intellectual history and music analysis. My approach to this *histoire croisée* is fundamentally relational, sensitive to the contingencies and transformations of both musical materials and epistemological frameworks as developed and adapted by philologists, musicologists, and composers.[9] I begin with an overview of the Indo-European hypothesis and its application in nascent Francophone musicology, with a focus on constructions of Indian 'modality', in the decades surrounding the turn of the twentieth century. Then, observing how composers drew upon this musicological scholarship, I contrast quasi-'archaeological' quotations of ostensibly Indian melodies or dances as 'local colour' with the philologically mediated assimilation of Indian 'modes' in the service of artistically 'progressive' formalism. Aspects of both of these mediations are exemplified in Gabriel Pierné's *Izéÿl* (1894), among the first works to deploy Indian 'modes'. Departing from readings which contrast superficial exoticism with deepened knowledge evinced on a structural level (or variations on this theme), I contend that different techniques of representation are accountable to distinct epistemic mediations, and that attention to philology's mediation in particular elucidates what aesthetic analysis alone cannot: that certain uses of 'Indian modes' align with historical efforts to embody ethnic identification with a subject, rather than to signal 'exotic' difference.

The second half of the article encompasses the extended case study alluded to in my title: I trace how the *melakarta*s — a seventeenth-century South Indian theoretical system of *rāga* classification comprising seventy-two heptatonic scales — travelled, not without friction and equivocation, via predominantly British imperial networks to French universities and conservatoires, where they became naturalized in what

[8] The topic of Indian music 'in the French imagination' has also been probed by Jann Pasler in a trilogy of articles from the late 1990s: 'Reinterpreting Indian Music: Maurice Delage and Albert Roussel', in *Music-Cultures in Contact: Convergences and Collisions*, ed. by Margaret J. Kartomi and Stephen Blum (Gordon & Breach, 1994) pp. 122–57; 'India and its Music in the French Imagination before 1913', *Journal of the Indian Musicological Society*, 27 (1996), pp. 27–51; and 'Race, Orientalism, and Distinction in the Wake of the "Yellow Peril"', in *Western Music and Its Others: Difference, Representation, and Appropriation in Music*, ed. by Georgina Born and David Hesmondhalgh (University of California Press, 2000), pp. 86–118. While Pasler's teleology inclines toward the ultramodern valorization of musical alterity, exemplified in works like Maurice Delage's *Quatre poèmes hindous* (1912), I offer a contrasting narrative via which Indian music, mediated by comparative philology the Indo-European hypothesis, became viewed through the lens of ancestrality and 'selfhood' — no longer marked as 'Indian' but rather assimilated as 'French'.

[9] On *histoire croisée*, see Michael Werner and Bénédicte Zimmermann, 'Beyond Comparison: *Histoire Croisée* and the Challenge of Reflexivity,' *History and Theory*, 45.1 (2006), pp. 30–50, doi:10.1111/j.1468-2303.2006.00347.x; on relational musicology, see e.g., Georgina Born, 'For a Relational Musicology: Music and Interdisciplinarity, Beyond the Practice Turn', *Journal of the Royal Musical Association*, 135.2 (2010), pp. 205–43, doi:10.1080/02690403.2010.506265, and Nicholas Cook, 'Anatomy of the Encounter: Intercultural Analysis as Relational Musicology', in *Critical Musicological Reflections: Essays in Honour of Derek B. Scott*, ed. by Stan Hawkins (Ashgate, 2012), pp. 193–208.

composer-historian Maurice Emmanuel envisioned as the 'modal republic' of French music. Along the way, they nourished fantasies of Indo-European 'modal' filiations between early Indian and European musical forms, and radically expanded French modalist discourses during the interwar years. The turning point comes in the form of Sanskrit philologist Joanny Grosset's substantial chapter on Indian music, published in 1913. Much indebted to the musical research of British army captain C. R. Day, Grosset introduced the *melakarta*s to a generation of French composers, who made conspicuous use of the 'modes' in stage and instrumental works accompanied by the racializing discourse of Indo-Europeanism — as illustrated in my rereadings of Albert Roussel's opera-ballet *Padmâvatî* (1913–1918), and of the compositional and musicological work of Emmanuel. The interwar period saw the introduction of the *melakarta*s into pedagogy — not least in organ improvisation treatises, where they were largely abstracted from their geographic associations and assimilated to long-standing church music discourses of modalism that had contributed to French interest in modes in the first place. Finally, increasingly schematic representations of the *melakarta* system (already a rationalized theoretical system in the Indian context) culminated in experiments in generative 'modal' synthesis — including, most famously, Messiaen's 'modes of limited transposition' — wherein the rationalizing effects of philological mediation reach their logical conclusion and the 'modes' (almost) shed their Indian associations. I conclude the article in a more speculative vein, extrapolating the relational perspective back to the constitution of philology itself in order to proffer a novel conceptualization of the relationship between Karnatic and French scale systems (and epistemologies of music) in the early twentieth century.

The Indo-European Idea: Histor(iograph)ical Contexts

If it is difficult today to disentangle the history of Indo-Europeanism, or Aryanism, from that of the Shoah, the teleology toward extremism overshadows many subtler avenues by which its logics infiltrated art and science alike. Understanding the full range of Indo-Europeanist thought is essential not only to making greater sense of wide swaths of late nineteenth- and early twentieth-century intellectual and artistic production, but also to better grasping the epistemic and cultural foundations upon which Aryanist extremism took root. This section offers brief historical and historiographical contextualization of the Indo-European hypothesis and its disciplinary apparatus, comparative philology, to ground the subsequent claims regarding French musicology and composition.[10]

[10] For intellectual histories more comprehensive than may be recapitulated here, tracing Indo-Europeanism from linguistic hypothesis through Nazi Aryanism, see, for example: Poliakov, *Le Mythe aryen*; Maurice Olender, *Les Langues du Paradis. Aryens et Sémites: un couple providentiel* (Seuil, 1989); Stefan Arvidsson, *Aryan Idols: Indo-European Mythology as Ideology and Science*, trans. by Sonia Wichmann (University of Chicago Press, 2006); Tuška Beneš, *In Babel's Shadow: Language, Philology, and the Nation in Nineteenth-Century Germany* (Wayne State University Press, 2008); Pascale Rabault-Feuerhahn, *L'Archive des origines: Sanskrit, philologie, anthropologie dans l'Allemagne du XIXe siècle* (Les Éditions du Cerf, 2008); Siraj Ahmed, *Archaeology of Babel* (Stanford University Press, 2017). For a thorough critique of Indo-Europeanist scholarship from its inception to the present day, see Jean-Paul Demoule, *Mais où sont passés les Indo-Européens?* (Seuil, 2014).

The history of the Indo-European hypothesis is inextricably bound up with British imperialism in India. The observation of significant similarities between Sanskrit and Persian, Greek, Latin, and the Romance, Germanic, Slavic, and Celtic languages is usually attributed to a much-exalted 1786 address given by William Jones, colonial jurist in Calcutta and founder of the Asiatic Society of Bengal.[11] Jones, a precocious polyglot, undertook Sanskrit with the intent to redress (or rather undermine) the Indian scholars advising him on Hindu legal traditions through his own textualist interpretation of *dharma.* Sanskrit's apparent affinities with this startling array of languages led Jones to hypothesize a common linguistic fount, a theory which unleashed a frenzy of research across Europe over the early nineteenth century. Grammarians including Franz Bopp, Wilhelm von Humboldt, and the Brothers Grimm distilled shared characteristics of Indo-European languages by systematically comparing linguistic elements against a common field of grammatical concepts, thereby giving rise to the discipline known as 'comparative philology'.

For many, however, the true stakes of language history were human history. Taking the spread of language as an index for that of people (following a Herderian logic), scholars sought more elaborate (or convoluted) means of extrapolating the comparative method beyond language, suggesting that common linguistic roots evinced a broader, 'Indo-European' patrimony. Friedrich Max Müller, Oxford's first professor of comparative philology (and son of Wilhelm), devised a 'science of religion' by linking Indo-European languages to belief systems through analyses of metaphorical expression. Adolphe Pictet (friend of Liszt) invented the technique of 'linguistic palaeontology' in efforts to deduce from shared vocabularies what early 'Indo-European' societies were like. Through the accumulation of such slippages the premise of an Indo-European linguistic family escalated into constructions of 'Indo-European' culture, mentality, and 'race', also dubbed 'Aryan' (based on a reappropriated Vedic term). Against 'Indo-European' languages were contrasted the 'Semitic', notably Hebrew and Arabic; against 'Aryans', 'Semites' — Jewish and Muslim alike. Such concepts of 'race', derived by a plainly tautological feedback cycle, were subsequently construed as the ontological basis for wide-ranging cultural and historical phenomena.

Comparativist sciences thus reconfigured European constructions of human history along what Vasant Kaiwar has called the 'Aryan model', with 'two main pillars, one Greek, one Indian'.[12] The study of Sanskrit — presumed among the earliest

[11] The William Jones origin story of comparative philology is self-consciously omnipresent in the historiography, though the scope of Jones's originality is debated. Marcus Zuerius van Boxhorn had posited an 'Indo-Scythic' proto-language in 1647, and Leibniz proposed something like an Indo-European language group in 1710. In *Mais où sont passes les Indo-Européens?*, Demoule acknowledges Jones's 'discovery' as a 'canonical' postulate of the historiography of Indo-Europeanism (p. 15), but considers it 'hagiographic reconstruction' (p. 39). Nonetheless, it was Jones's formulation that took hold across Europe.

[12] Vasant Kaiwar, 'The Aryan Model of History and the Oriental Renaissance: The Politics of Identity in an Age of Revolutions, Colonialism, and Nationalism', in *Antinomies of Modernity: Essays on Race, Orient, Nation*, ed. by Vasant Kaiwar and Sucheta Mazumdar (Duke University Press, 2003), pp. 13–61 (p. 23); Kaiwar builds on the framework of Martin Bernal, *Black Athena: The Afroasiatic Roots of Classical Civilization*, 3 vols (Free Association Books, 1987), in particular the first volume.

'Indo-European' languages — not only upended European beliefs in the historical and divine priority of Hebrew,[13] but also reformulated Europe's relationship to Greco-Roman antiquity, as reference to Sanskrit texts and Hindu spirituality suddenly appeared essential to understanding Greek and Latin language, mythology, and society. Fustel de Coulanges's landmark history, *La Cité antique* (1864), situated Greece and Rome along an 'Indo-European' continuum, thereby placing modern France — already the self-proclaimed inheritor of Greco-Roman 'civilization' since Louis XIV — as the recipient of an even more extensive 'Indo-European' cultural, turned ethnic, heritage.[14] 'Indo-European' essentialism nourished Aryanist supremacism as popular texts such as Émile Burnouf's *La Science des religions* (1864) and Édouard Drumont's *La France juive* (1886) sharpened comparativist research into racist invective. By the *fin de siècle*, the Indo-European idea had spiralled from linguistic hypothesis to ethnocultural weapon, causing consternation among more scrupulous intellectuals such as Salomon Reinach — whose lucid critique of language comparison as a proxy for human relations was published as *L'Origine des Aryens: histoire d'une controverse* (1892). The fact that subsequent linguistic scholarship repositioned Sanskrit not as ancestor of Greek and Latin but rather on a separate branch of the 'Indo-European' linguistic family tree, with its roots now speculatively in central Asia, did little to curb entrenched perceptions of India as an ancestral 'cradle'. And so India — variously conceived as remote ancestor, distant cousin, or 'exotic' stranger — frustrated binaries of Self and Other at a time when the politics of nationalism and imperialism increased the stakes of identity.

Comparative philology (and by extension Indo-Europeanist discourses) have been described as 'hegemonic' in late nineteenth- and early twentieth-century European intellectual production.[15] Notions of Indo-Europeanism infiltrated scientific empiricism just as they did Romantic spiritualism; they were wielded to justify colonialist and anticolonialist ideologies;[16] they were touted as proof of Jesus Christ's divinity, and as proof of the opposite. Yet even after several generations' critical historiography,

[13] Olender, *Les Langues du Paradis*, pp. 24–33.

[14] For recent studies of French musical Hellenism during the period under consideration, see, for example: Christophe Corbier, *Poésie, musique et danse: Maurice Emmanuel et l'hellénisme* (Éditions Classiques Garnier, 2010); Jon Solomon, 'The Reception of Ancient Greek Music in the Late Nineteenth Century', *International Journal of the Classical Tradition*, 17.4 (2010), pp. 497–525, doi:10.1007/s12138-010-0216-1; Samuel N. Dorf, *Performing Antiquity: Ancient Greek Music and Dance from Paris to Delphi, 1890–1930* (Oxford University Press, 2019).

[15] Rabault-Feuerhahn, *L'Archive des origines*, II; Ahmed, *Archaeology of Babel*, p. 39. For Kaiwar, Indo-Europeanism underlies the 'paradoxes and antinomies that accompany the development of modernity' ('The Aryan Model', p. 14).

[16] The relationship between Indo-Europeanism and imperialism was especially fraught in the British case, given inherent tensions between British imperial violence and notions of ethnic kinship between colonizers and colonized. On Aryanism and imperialism in the British context, see Thomas R. Trautmann, *Aryans and British India* (University of California Press, 1997), and Tony Ballantyne, *Orientalism and Race: Aryanism in the British Empire* (Palgrave Macmillan, 2002); in the French context, see Jyoti Mohan, 'The Glory of Ancient India Stems from Her Aryan Blood: French Anthropologists "Construct" the Racial History of India for the World', *Modern Asian Studies*, 50.5 (2016), pp. 1576–1618, doi:10.1017/S0026749X13000206.

attention to how Indo-Europeanism infiltrated and shaped artistic production remains scarce, in part because some of its cultural manifestations only came to fruition decades after its scientific heyday.[17] In the context of music studies, the particularity of Indo-Europeanism's impact has often been concealed beneath more diffuse critiques of 'exoticist' and/or 'neo-classicist' representation. Meanwhile, in the context of French historical studies, the 'Aryan myth' has often been subsumed within studies of nationalism and antisemitism, while largely eluding French postcolonial historiography — after all, the hypothesis emerged directly from British more than French imperialism. The French Colonial Empire had its own fluctuating presence in India extending from the seventeenth century until 1954 and an even longer history of missionary and trade activity,[18] which generated wide-ranging representations of the subcontinent from the eighteenth through twentieth centuries in the arts, the press, and expositions.[19] Yet the exoticism and fantasy that have largely dominated postcolonial studies of the French Indian imaginary serve as a foil to the abstract, classicizing construction of India that prevailed in European philology in the wake of Jones's hypothesis, even as exoticism and classicism mixed in cultural representations in complex ways.[20] Reckoning with the Indo-European hypothesis in France therefore requires broad attention to all of these mediations: competing colonialisms (British and French), nationalisms (both within European nations and supranational constructions of 'race'), and complex cultural transfers across national, imperial, and linguistic boundaries over time.

Indo-Europeanism and Francophone Musicology

If William Jones is credited with unleashing philological comparativism and Indo-Europeanism broadly speaking, he also shaped European notions of Indian music directly through his famous study, 'On the Musical Modes of the Hindus' (1784, rev. 1792). The significance of this text is well attested in contemporary musicological literature, although Jones's impact on philology and on musicology have rarely been

[17] Two recent publications — Christopher Hutton's potted history of the 'Aryan' hypothesis and a special issue of the journal *Romantisme* on 'l'Idée indo-européenne' — are symptomatic; while attention to the intellectual trends is rich and nuanced, there is little attempt to link these to cultural production. Christopher Hutton, 'Orientalism and Race: Aryans and Semites', in *Orientalism and Literature*, ed. by Geoffrey P. Nash (Cambridge University Press, 2019), pp. 117–32; *L'Idée indo-européenne*, ed. by Aurélien Aramini and Arnaud Macé, special issue of *Romantisme*, 185.3 (2019).

[18] See, e.g., Jacques Weber, *Les Établissements français en Inde au XIXe siècle (1816-1914)*, 5 vols (Librairie de l'Inde, 1988), and his subsequent publications; and Nicola Frith and Kate Marsh, *France's Lost Empires: Fragmentation, Nostalgia, and* La Fracture Coloniale (Rowman & Littlefield, 2011), III.

[19] See, e.g., Jackie Assayag, *L'Inde fabulueuse. Le charme discret de l'exotisme français (XVIIe–XXe siècles)* (Éditions Kimé, 1999). The University of Liverpool hosts an exhaustive database of French books on India, extending from 1531 to the present day; see *French Books on India* <www.frenchbooksonindia.com> [accessed 8 September 2022].

[20] For an exceptional study of the multi-faceted intellectual construction of India in France, see Roland Lardinois, *L'Invention de l'Inde. Entre ésotérisme et science* (CNRS Éditions, 2007).

studied side by side; it will help therefore to recall here a few aspects of Jones's approach that remained a model for future discourse even as late as Grosset, over a century later.

In music as in language and law, Jones's agenda involved restoring authentically 'Hindu' qualities to a culture 'contaminated' by centuries of Muslim presence and political control.[21] Paralleling his textualist attitude toward Sanskrit legal texts as a colonial jurist, Jones viewed musicological manuscripts (the older the better) as authoritative sources of knowledge — 'the pure fountain of *Hindu* learning' — epistemically superior to contemporary practice, the 'authenticity' of which he distrusted.[22] As the title suggests, he conceptualized Indian music principally through its 'modes', affording comparisons to other familiar points of reference about early music — including plainchant, itself believed to preserve 'some valuable remnants of old *Grecian* musick' — although he did not go so far as to propose a common fount as he had for language.[23] Jones's partiality to the modal parameter reinforced (or was reinforced by) his predilection for the *Rāgavibodha*, a classification system of fifty-one *rāga*s authored by Somanātha in the seventeenth century. Believing it to be much older, Jones considered the *Rāgavibodha* the 'most valuable work' on Indian music, despite its explicit limitation to pitch (and despite the fact that, as he lamented, 'none of the *Pandits* […] to whom I have shown it, appear to have known that it was extant').[24] Jones thus modelled a textualist, proto-philological study of Indian music, based on reified, idealized pitch structures, interpretable and comparable as an index of music-historical filiations.

Jones's study enjoyed wide dissemination and remained a touchstone for European knowledge about Indian music. Not least, it was central to the notorious efforts of François-Joseph Fétis (1784–1871) to integrate music history, via comparative philology, into a 'general ethnological history' of humanity.[25] Constructing a music history according to linguistic-turned-'racial' categories, Fétis 'piggybacked a lineage of musical tonalities on the Indo-European stemmata that his contemporaries were sketching out', as Thomas Christensen describes.[26] Citing Jones extensively, Fétis

[21] On Jones and the interrelated colonial, textualist, and Islamophobic legacy he left upon scholarship of Indian music, see Janaki Bakhle, *Two Men and Music: Nationalism in the Making of an Indian Classical Tradition* (Oxford University Press, 2005), pp. 9–11 and 51–62; and Lakshmi Subramanian, *From the Tanjore Court to the Madras Music Academy: A Social History of Music in South India*, 2nd edn (Oxford University Press, 2006), pp. 59–60.

[22] William Jones, 'On the Musical Modes of the Hindus: Written in 1784, and since Much Enlarged', *Asiatick Researches*, 3 (1792), pp. 55–87 (p. 65) (emphasis original). Jones's musicological practice thus exemplifies Siraj Ahmed's observation that philology 'identifies tradition with texts alone' — 'not on native experience, therefore, but on its destruction' (*Archaeology of Babel*, p. 38).

[23] Jones, 'On the Musical Modes', pp. 65, 60.

[24] Ibid., p. 66. Somanātha is understood to represent the Karnatic musical tradition, at a period shortly after the distinction between Karnatic and Hindustani traditions stabilized (see Ellie te Nijenhuis, *The Rāgas of Somanātha*, 2 vols (E. J. Brill, 1976), i, p. 3).

[25] Thomas Christensen, *Stories of Tonality in the Age of François-Joseph Fétis* (University of Chicago Press, 2019), p. 184. See also, Peter Asimov, 'Fétis, Gevaert, and their Indo-European Hypotheses: Echoes of Comparative Philology, Language, and "Race" in Early Belgian Musicology', *Revue belge de musicologie / Belgisch Tijdschrift voor Muziekwetenschap*, 77 (2024), pp. 23–48.

[26] Christensen, *Stories of Tonality*, p. 187; François-Joseph Fétis, *Histoire générale de la musique depuis les temps les plus anciens jusqu'à nos jours*, 5 vols (Didot, 1869), II, p. 185.

described the 'tonal system of the Aryas of India' as the source of 'the musical systems of all peoples of the Aryan race'.[27] Thence a westward progression — to Greece, then Italy — paralleled the imagined trajectory from Sanskrit to the modern languages of Europe. Fétis's profile of Indian music was thus fashioned to buttress *a priori* links to Greek and thereby French musics. Similarities drawn between Indian and European pitch structures signified to Fétis not mere analogies, but evidence of continuity: 'we observe still the same principle in the plainchant tonality of our churches'.[28]

Following Fétis, hypotheses of racialized 'Indo-European' musical essentialism were propagated by a generation of francophone philologists and musicologists seeking to incorporate music within the expanding comparativist framework.[29] Medievalist Gaston Paris extrapolated Indo-Europeanist logic from language, through poetry, to popular song. Mixing 'racial' and linguistic categories, he envisioned a vast arboreal taxonomy: 'The general design and family tree of our songs should someday be established more or less thus, going always from broadest to narrowest: we will go from humanity as a whole to the white race, to the Aryans, to each group of Aryan people (Slavic, Germanic, Greco-Roman, Celtic, etc.), to each people, to each province, to each canton.'[30] Pierre Aubry, among the most renowned musicologists of his generation, called upon musicologists to reconstruct 'proto-Indo-European' music on the basis of comparing tonalities and rhythms, just as the linguists had attempted with the *Ursprache*.[31] And Henry Woollett opened his *Histoire de la musique* (1909) with reference to 'Vedic India, mysterious India, cradle of the world', recounting how 'Indian music, of Aryan origin, as we who are Aryan should not forget, would spread by way of Persia, by Greece, and gradually infiltrate its way toward Europe'.[32] Woollett's tract, awarded the prestigious Prix Bordin by

[27] Ibid., II, p. 204; 'le système tonal des Aryas de l'Inde. C'est de lui que sont sortis les systèmes musicaux de tous les peuples de race arienne.'

[28] Ibid., II, p. 209; 'C'est encore le même principe qu'on remarque dans la tonalité du plain-chant de nos églises.'

[29] Comparative philology's imprint on Francophone musicology is distinct from early twentieth-century 'comparative musicology', with its roots in Germanophone contexts, which has received more attention in Anglophone historiography. For one study of early French musicology's relationship to philology, see Rémy Campos, 'Philologie et Sociologie de la musique au début du XXe siècle: Pierre Aubry et Jules Combarieu', *Revue d'Histoire des Sciences Humaines*, 14.1 (2006), pp. 19–47, doi:10.3917/rhsh.014.0019; however, Campos does not broach philology's entanglement with the Indo-European hypothesis.

[30] Gaston Paris, 'De l'étude de la poésie populaire en France', *Mélusine*, 1878, pp. 2–6 (p. 4); 'le dessin général et l'arbre généalogique de nos chansons devra un jour ou l'autre être fixé à peu près ainsi, en allant toujours du plus vaste au plus restreint; on ira de l'humanité entière à la race blanche, — aux Aryens, — à chaque groupe de peuples aryens (slave, — germanique, — gréco-romain, — celtique, etc.) — à chaque peuple, — à chaque province, — à chaque canton.'

[31] Pierre Aubry, 'Le Système Musical de l'église Arménienne', *La Tribune de Saint-Gervais*, 7.11–12 (1901), pp. 325–32 (pp. 325–28).

[32] Henry Woollett, *Histoire de la musique depuis l'antiquité jusqu'à nos jours*, 4 vols (Eschig, 1909), I, pp. 35, 43; 'Inde védhique [sic], de l'Inde mystérieuse, berceau du monde'; 'La musique de l'Inde, la musique d'origine aryenne, ne l'oublions pas nous qui sommes Aryens, devait par la Perse, par la Grèce, se répandre, s'infiltrer peu à peu vers l'Europe'.

the Académie des Beaux-Arts, demonstrates that even once philologists had repositioned Sanskrit along a separate 'branch' (rather than the trunk) of the 'Indo-European' linguistic 'tree', fantasies of India as fount-and-origin persisted.

The Indo-European hypothesis thus remained a steady undertone in discussions of early music in a period when anxieties about national identity raised the stakes of cultural history and the musical past: such questions dominated the discipline of musicology in the decades of its emergence and institutionalization in France, and stimulated a coalescent nationalist and historicist sensibility among composers seeking far and wide to infuse their work with the very 'sources of Frenchness'.[33]

Melodic Archaeology/Modal Philology

For all this musicological speculation about the Indo-European hypothesis, the suggestion that French composers might appropriate Indian music as a patrimonial reservoir was yet far from the fore. Rather, composers often imported ostensibly Indian melodies or dances for the sake of 'local colour', in keeping with familiar techniques of nineteenth-century orientalist operatic composition and reflecting the wide range of impressions of India in the French imaginary. Such borrowings, which I loosely describe as 'archaeological' and which were often labelled in the score, offer an instructive point of contrast for what I describe, with more precise intention, as the 'philologically' mediated assimilation of 'modes' emergent toward the end of the nineteenth century. Where scholars, following most notably Ralph Locke, have sought to distinguish shades of exoticism by means of an aesthesic hermeneutics — notably, how 'overt', 'submerged', or genuinely 'transcultural' a borrowing is judged to be, based on stylistic or programmatic markers[34] — I propose to look 'beneath exoticism'[35], as David Irving has put it, focusing on the respective mediation of distinct epistemological traditions of archaeology and philology on the compositional process. Attention to these respective mediations elucidates with greater specificity the representational and identitarian stakes of these musical gestures, the impact on musical forms, and the ultimate trajectory of 'modal' composition in French modernism. My terms should be taken as ideal-typical, and, as the following examples illustrate, aspects of each type may more messily coexist.

Quasi-archaeological borrowings are showcased in the 'mélodie hindoue' and 'nautch hindou' of Jules Massenet's *Roi de Lahore* (1877) and *Nana-Sahib* (1883), or the 'Terâna' and 'Rektah' dances in Léo Delibes's *Lakmé* (1883), to name only a

[33] Katharine Ellis, *Interpreting the Musical Past: Early Music in Nineteenth-Century France* (Oxford University Press, 2005), p. 157. Not everyone agreed that the Indo-European hypothesis had anything to offer musicology; regarding debates and resistance to the hypothesis in the Francophone context, see Asimov, 'Fétis, Gevaert, and their Indo-European Hypotheses', pp. 33–42.

[34] Ralph Locke, *Musical Exoticism: Images and Reflections* (Cambridge University Press, 2009), ch. 9.

[35] David R. M. Irving, 'Rethinking Early Modern "Western Art Music": A Global History Manifesto', *IMS Musicological Brainfood*, 3.1 (2019), p. 8.

few.[36] Like an acoustic counterpart to archaeologically informed set designs, such borrowings — usually episodic diversions from the narrative (often literally, in '*divertissement*' sequences) — served to enhance the spectacle of South Asian settings. The archaeological effect was often emphasized with paratextual labels — a title, or later, more often a footnote, demarcating the borrowing from the rest of the score and suggesting fidelity to a source — like an archaeological curio exhibited in a museum case. Charles Lefebvre's *Djelma* (1894), set in Mysore, linked a melody to a footnote explaining, 'the first bars of this phrase imitate an old Hindu song'.[37] Alphonse Duvernoy's *Bacchus* (1902), staging the god's travels to India, contained two themes marked with asterisk and footnote as 'thème indien'.[38] Such authentications continued the following decade with the 'motif hindou' labelled in Reynaldo Hahn's *Dieu bleu* (1913), and in the 'Old Hindu song' of Debussy's *Boîte à joujoux* (1913).[39] The composers' musical treatments of these 'borrowed' melodies vary, sometimes assimilated to tonal harmonizations, elsewhere isolated against a static backdrop (see Figures 1a to 1c).

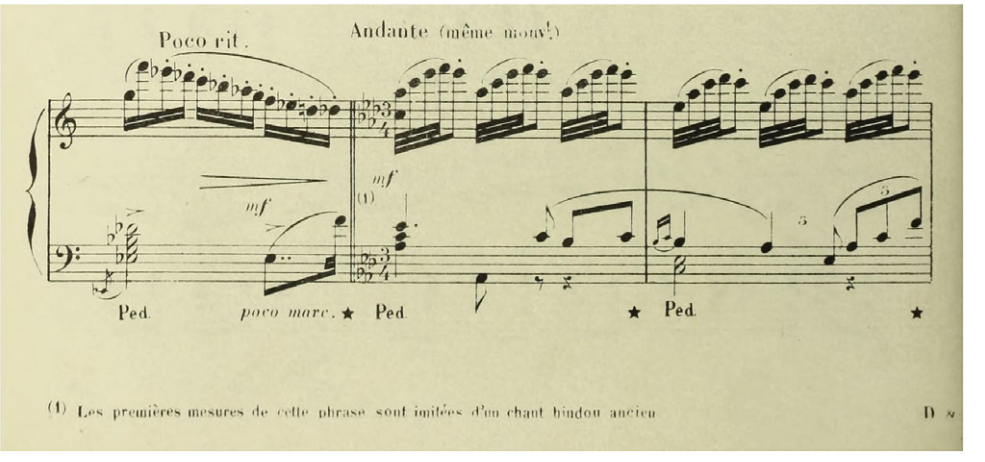

Figure 1a. Excerpt from Charles Lefebvre, *Djelma*, vocal score (Durand & Fils, 1894), p. 122.

[36] Pasler has listed several of the examples discussed in this paragraph ('India and its Music', p. 47), although today digitized library catalogues make it easier to find many more cases. For operatic examples, see also, Assayag, *L'Inde fabuleuse*, chapter 1.

[37] Charles-Édouard Lefebvre, *Djelma, opéra en trois actes*, libretto by Charles Lomon (Durand, 1894), p. 124; 'Les premières mesures de cette phrase sont imitées d'un chant hindou ancien'.

[38] Alphonse Duvernoy, *Bacchus: Ballet en trois actes et cinq tableaux*, libretto by Georges Hartmann and J. Hansen (Heugel, 1902), pp. 4, 58–63.

[39] Hahn, Reynaldo, *Le Dieu Bleu*, libretto by Jean Cocteau and Frédéric de Madrazo (Heugel, 1911), p. 10; Claude Debussy, *La Boîte à joujoux: Ballet pour enfants*, libretto by André Hellé (Durand, 1913), p. 7; the full text of Debussy's footnote, perhaps tongue-in-cheek, reads, 'Vieux chant hindou qui sert, de nos jours encore, à apprivoiser les éléphants. Il est construit sur la gamme de "5h du matin" et, obligatoirement, en 5/4'.

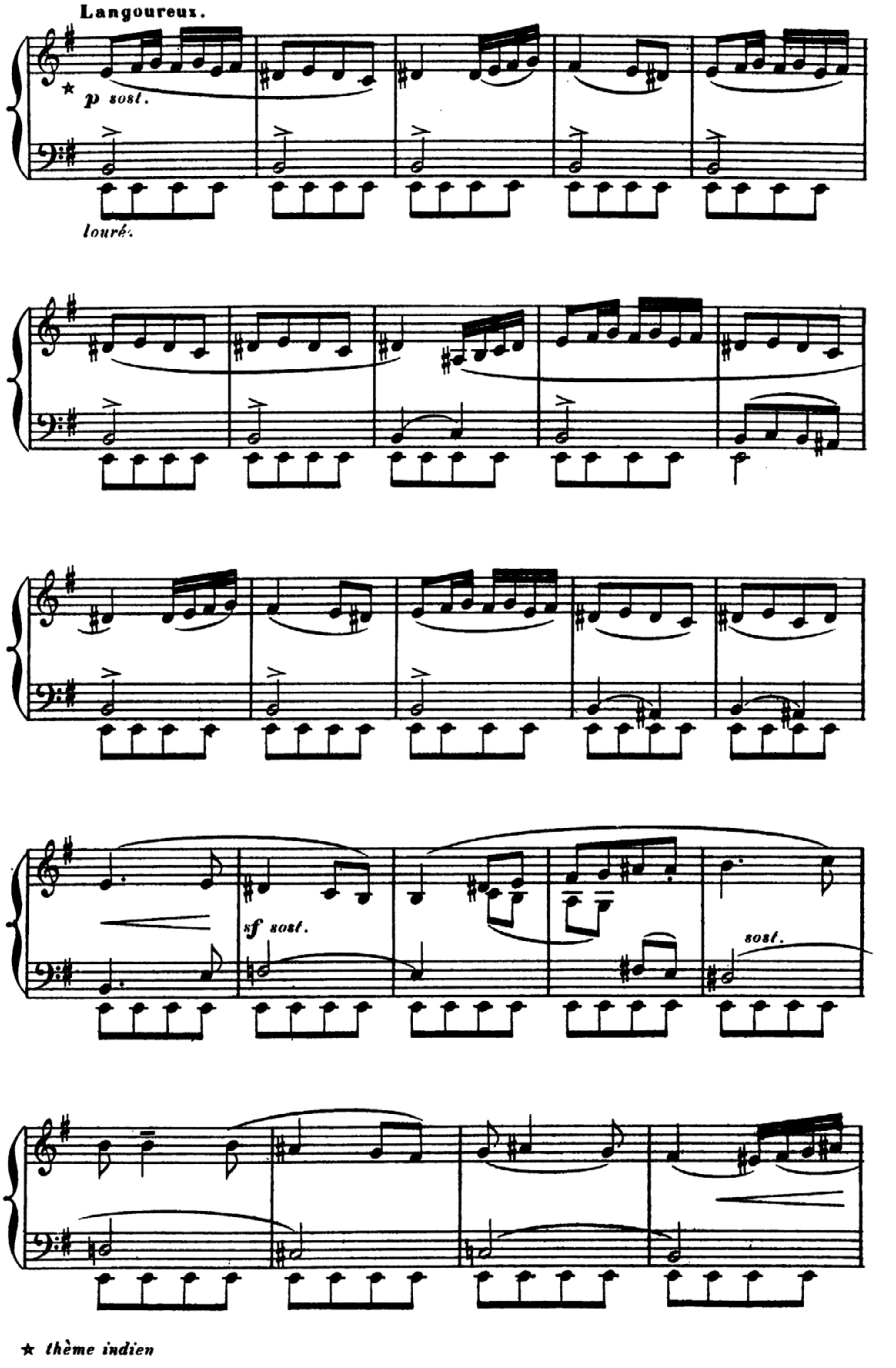

Figure 1b. Excerpt from Alphonse Duvernoy, *Bacchus*, piano score (Heugel & Cie, 1902), p. 4.

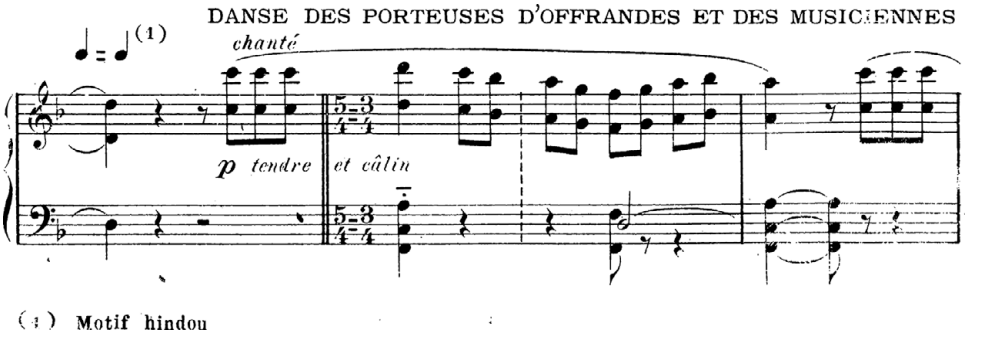

Figure 1c. Excerpt from Reynaldo Hahn, *Dieu bleu*, piano score (Heugel & Cie, 1911), p. 10.

In contrast, philologically mediated modalism is characterized at once by the rationalization of music into formal structures — in the context of this article, 'modes', viewed by musicologists as analogous to morphological structures of language — and by racialization — the presumed 'Indo-European' inheritance of these forms, which motivated the desire to mobilize them in composition. The most prominent advocate for 'Indo-European modality' in these terms — though formulated with reference to Greek and Breton music, rather than Indian — was folklorist, historian, composer, and Conservatoire professor of music history Louis-Albert Bourgault-Ducoudray. Combining the aforementioned research of Fétis, Burnouf, and Paris with his own fieldwork, Bourgault-Ducoudray affirmed that common 'modal' structures 'can be found in the primitive music of all the peoples of the Indo-European group, that is, the Aryan race'.[40] But he went a step further, converting pseudo-philological theories of Grecian and folk 'modality' into nationalist polemic for the future of French composition: 'if these venerable modes came from a heritage common among all Aryans, one sees no reason why we would not exploit this domain which is a part of the patrimony of our race, and which is rightly ours.'[41] Leading by example, Bourgault-Ducoudray modelled techniques of 'modal' composition in works such as his opera *Thamara* (1891). Combining a Mighty Handful-inspired approach to folklike melodicism with Louis Niedermeyer and Joseph d'Ortigue's doctrine of 'modal' plainchant

[40] Louis-Albert Bourgault-Ducoudray, *Trente mélodies populaires de Basse-Bretagne* (Henry Lemoine, 1885), pp. 14–16; 'des caractères identiques se retrouvent dans la musique primitive de tous les peuples qui composent le groupe indo-européen, c'est-à-dire de race âryenne.' On Bourgault-Ducoudray and Indo-Europeanism, see Jann Pasler, 'Race and Nation: Musical Acclimatisation and the *Chansons Populaires* in Third Republic France', in *Western Music and Race*, ed. by Julie Brown (Cambridge University Press, 2007), pp. 147–67 (pp. 154–56); Inga Mai Groote, 'Griechische Bretonen? Hintergründe und Funktionen der Modalität bei Louis-Albert Bourgault-Ducoudray', *Musiktheorie*, 29.1 (2014), pp. 5–16; Panos Vlagopoulos, '"The Patrimony of Our Race": Louis-Albert Bourgault-Ducoudray and the Emergence of the Discourse on Greek National Music', *Journal of Modern Greek Studies*, 34.1 (2016), pp. 49–77, doi:10.1353/mgs.2016.0010.

[41] Bourgault-Ducoudray, *Trente mélodies populaires de Basse-Bretagne*, p. 16; 'si […] ces modes vénérables proviennent d'un héritage commun à tous les Aryens, on ne voit pas pourquoi nous n'exploiterions pas un domaine qui fait partie du patrimoine de notre race et qui est en vérité bien à nous.'

accompaniment, Bourgault-Ducoudray opted not to quote in the archaeological manner exemplified above, but rather to assimilate what he called their 'construction', through melodic and harmonic modalism, in the service of an imminently racialized musical language.

Although Bourgault-Ducoudray scarcely addressed Indian music in his writings, others close to him soon extrapolated his methods to Indian 'modes', which had been likened to Greek 'modes' since Jones, and tagged as 'Aryan' since Fétis.[42] Among the first to do so was Gabriel Pierné, in his incidental music to *Izéÿl* (1894), a four-act 'drame indien' set in the fifth century BCE, written by Armand Silvestre and Eugène Morand for Sarah Bernhardt and staged at her Théâtre de la Renaissance to popular acclaim.[43] Pierné's approach in *Izéÿl* straddles the 'archaeological' and 'philological' paradigms, showing how elements of each may coexist in practice. Rather than borrowing melodies, Pierné went straight for 'modes': in the score of the opening 'Aubade', he notes, 'Mode Nettâ'; the third number, 'Cortège funèbre', is labelled, 'sur le mode Varati transposé', while the fifth, 'Stances du Prince', is marked 'Mode Bhairavi'. Pierné's scales correspond to those in Fétis's *Histoire générale* (though he disregarded the diacritical markings used by Fétis to suggest divergences from twelve-tone equal temperament); Fétis had copied them from Jones, who had plucked them from the *Rāgavibodha* (Figures 2a and 2b).

Pierné's harmonization technique bears Bourgault-Ducoudray's theoretical imprint, adhering to 'modal' pitch collections with only rare exceptions. In the 'Aubade', Pierné deviates from 'Mode Nettâ' in only one circumstance, adding G♮s to the bass despite the G♯s in the scale. Since these G♮s precede a resolution to the tonic, A, we might read these harmonies as half-diminished V^6_5 chords with E as the root, approximating a dominant function in the absence of a 'true' dominant in the pitch collection. He could as easily have swapped the 'modal' B♭ for B♮; but the incursion of G♮ in place of the leading-tone evokes 'modality' in a generic, topical sense — whether ancient, medieval, folkloric, or 'exotic' — thereby intensifying the section's departure from modern 'tonality'. In his recourse to this archaizing effect, Pierné compromises the harmonic integrity to 'Nettâ' in the service of a recognizable 'modal' trope — reconciling a tension between rigorous adherence to a chosen pitch collection and listeners' expectations of ancient 'modality'. This approach recurs in the 'Stances du Prince': while the melody strictly adheres to Fétis's 'Mode Bhairavi', Pierné introduces an exceptional F♮ into the harmonic underpinning.[44]

[42] Bourgault-Ducoudray's theories are in fact directly applied to Indian music in Philippe Stern, 'La Musique indoue – Les Ragas', *La Revue musicale*, 3.7 (1923), pp. 46–66, esp. pp. 64–66.

[43] For details of *Izéÿl*'s plot and its internationally popular reception, see Samuel Thévoz, 'The Yogi, the Prince, and the Courtesan', in *The Assimilation of Yogic Religions through Pop Culture*, ed. by Paul G. Hackett (Lexington, 2017), pp. 7–34.

[44] Bourgault-Ducoudray condoned such slight course corrections when justified by the 'character' — if not the letter — of a 'mode' (and what could be more 'characteristically modal' than a lowered leading-tone?); see *Trente mélodies populaires de Grèce et d'Orient* (Henry Lemoine, 1876), p. 8.

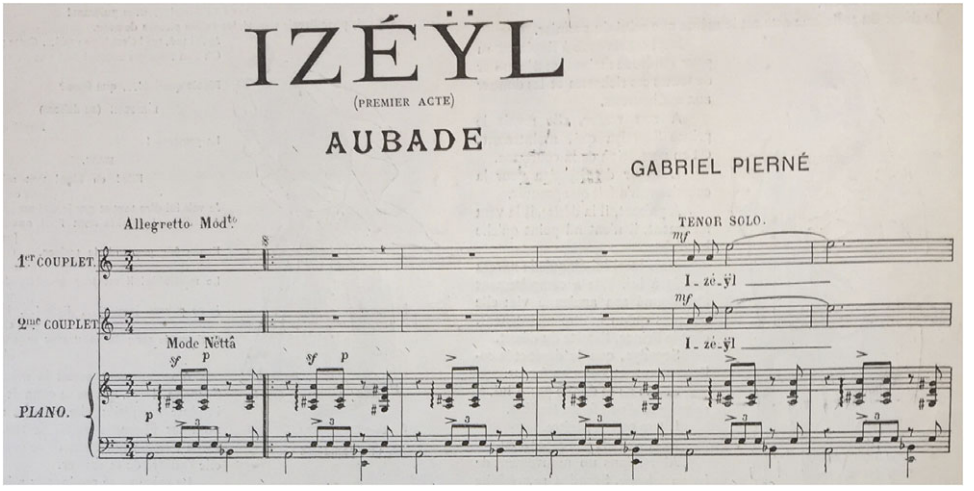

Figure 2a. Excerpt from Gabriel Pierné, *Izéÿl*, vocal score (Durand & Fils, [1894]), p. 1.

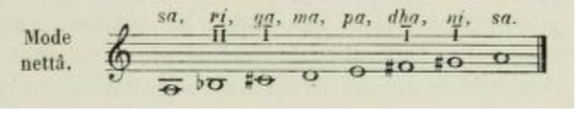

Figure 2b. 'Mode nettâ', in Fétis, *Histoire générale de la musique*, II, p. 213.

Most audiences likely experienced *Izéÿl* as a straightforward staging of an 'exotic' elsewhere, in keeping with Bernhardt's reputation for playing exoticized roles and reinforced by Pierné's layering of stereotypical exoticist signifiers — wordless choirs, seven-beat metres, oboe arabesques with augmented seconds, and so forth. But Bourgault-Ducoudray, for one, proudly claimed Pierné's work as an extension of his own: 'Pierné,' he wrote to Burnouf after the premiere, 'has made a most remarkable use of ancient modes in his music for *Izéÿl* […] I was right to advocate these new techniques, and those with skill have made use of them.'[45] Note the descriptor, 'ancient', by which he aligns Indian 'modality' with a 'classical' past.

While the 'modal' borrowings of *Izéÿl* reflect to an extent the philological mediation of Fétis's historiography and Bourgault-Ducoudray's compositional method, in demarcating these sections of his score, Pierné reproduced the display-case artefactual presentation of the 'archaeological' paradigm. In doing so, he persisted in framing

[45] Louis-Albert Bourgault-Ducoudray, *'Des airs que j'ai rapportés de Grèce'. Lettres de Bourgault-Ducoudray à Émile-Louis Burnouf*, ed. by Peter Asimov, in *Dictéco – Dictionnaire des écrits de compositeurs*, 2021 <https://dicteco.huma-num.fr/fr/document/55909>, [accessed 26 June 2024] p. 132; 'Gabriel Pierné a fait un emploi des plus remarquables des modes antiques dans sa musique d'Izéïl [sic] […] J'avais raison de prôner ces moyens nouveaux et les habiles s'en sont servi.' It is plausible that Pierné conscientiously applied Bourgault-Ducoudray's theories: not only may he have attended Bourgault-Ducoudray's history lectures as a student at the Conservatoire, but the two were also family friends.

'Indian modes' as a musical digression (or perhaps a regression or archaism), not yet the imminent expression of patrimonial identity envisioned by Bourgault-Ducoudray.[46] It took another generation — of both philological scholarship and musical composition — for Indian music to become a viable 'source of Frenchness'.

(Re)Presenting the *Melakartas*

One key figure in this process, and thereby in French compositional history, was Joanny Grosset (1862–1931). Today, Grosset's name is perhaps most familiar to Messiaen specialists, for it was through Grosset's chapter on Indian music in Albert Lavignac's *Encyclopédie de la musique et dictionnaire du Conservatoire*, published in 1913, that Messiaen encountered the '*deśītālas*' — the compilation of 120 thirteenth-century Indian rhythms famously integral to his compositional technique. Grosset, however, has remained peripheral to this history, and Messiaen's proclamations of the novelty of his research into Indian rhythm largely obscured the fact that other materials from Grosset's chapter had already begun resonating in French composition years earlier. In this section, I sketch how Indian music, and particularly the *melakarta* system, were constructed in Grosset's chapter — showing how processes of transmission and equivocation between Indian musicians and theorists, British imperialists and ethnographers, and French philologists and composers generated epistemological frictions with compositional consequences.

Grosset was not a musician by training, but a Sanskrit philologist. Under the tutelage of linguist Paul Regnaud at the University of Lyon, Grosset had produced two critical translations of selected chapters from Bharata Muni's foundational *Nāṭyaśāstra* ('Treatise on Drama', composed roughly two millennia ago).[47] These, plus his encyclopaedia chapter, constitute the entirety of Grosset's scholarly output — modest when compared to his impact upon French composition. Given the narrow scope of his first two publications, the breadth of his encyclopaedia chapter is impressive, incorporating many Indian sources novel to French (and even European) musicology.

Yet Grosset's scholarship reinscribes the epistemological (and racial) biases of his philological training, including emphases on text over sound, theory over practice, structure over process, Hindu over Muslim, and history over present — to evoke several binaries both explicit and latent in his chapter. In earlier publications, he had justified his research by arguing that Indian music 'reaches back to the earliest

[46] Another deployment of Indian 'modes' marked by quasi-archaeological paratextual labels is *Héliogabale* (1909), by Déodat de Séverac. Séverac's 'modes' correspond to those in Fétis's *Histoire générale*, and are used in conjunction with an arguably Indo-Europeanist representation of paganism at the dawn of the Roman Empire.

[47] Joanny Grosset, 'Contribution à l'étude de la musique hindoue', in *Mélanges de philologie indo-européenne*, by Paul Regnaud, J. Grosset, and J.-M. Grandjean, Bibliothèque de la faculté de lettres de Lyon, 6 (Ernest Leroux, 1888), pp. 1–91; Bharata Muni, *Bhāratīya-nāṭya-çāstram*, ed. by Joanny Grosset, Annales de l'université de Lyon, 40 (E. Leroux, 1898).

appreciable manifestations of the Indo-European race to which we belong'.[48] Echoing this premise in his encyclopaedia chapter, he identifies 'Arya's taste for music, dance, and spectacles' while lamenting how 'the darkness of time veils forevermore the first musical manifestations of this Aryan race'.[49] Grosset exemplifies textualism in the narrowest sense, having had no firsthand experience of performed Indian music. He surveys music's presence in the classical epic, lyric, dramatic, legal, and religious texts of the nineteenth-century Indological corpus, before introducing specifically musicological *śāstra* or scientific sources — including the *Nāṭyaśāstra*, naturally and the *Rāgavibodha*, already familiar from Jones and Fétis. To the extent that Grosset paid heed to contemporary (especially British) sources of Indian music, he sought to hear traces of ancient traditions that 'still shine today', thanks to the nature of the Hindus, 'eminent preservationists' who have 'passed down the torch, half-extinguished, of their fathers' marvellous civilization'.[50] Where he cited selected contemporary Indian scholars, including Sourindro Mohun Tagore and Rājendralāla Mitra, these authors themselves articulate narratives of a 'pure, Hindu' tradition that were to an extent assimilable (even accountable) to European constructions of Aryanism.[51]

Grosset's philological perspective aligned with colonialist initiatives when he posited that a suitably skilled European could 'pursue, through fieldwork, the patient study of the still-surviving debris of the ancient art'.[52] Accordingly, he relied extensively on the work of Charles Russell Day (1860–1900), author of *The Music and Musical Instruments of Southern India and the Deccan*, adapting much of Day's work for a French audience for the first time.[53] Grosset's recourse to Day is significant as the latter, a

[48] Grosset, 'Contribution', p. 3; 'remonte aux premières manifestations appréciables de la race indo-européenne à laquelle nous appartenons.'

[49] Joanny Grosset, 'Inde: Histoire de la musique depuis l'origine jusqu'à nos jours', in *Encyclopédie de la musique et dictionnaire du conservatoire*, ed. by Albert Lavignac, 11 vols (Delagrave, 1913), I, pp. 257–376 (p. 274; 'Goût de l'Arya pour la musique, la danse et les spectacles'; and p. 284; 'La nuit des temps voile à jamais les premières manifestations musicales de cette race âryenne').

[50] Ibid., pp. 258–59; 'brillent encore'; 'L'Hindou, éminemment conservateur …'; 'se sont passé le flambeau à moitié éteint de la merveilleuse civilisation de leurs pères'.

[51] Martin Clayton, 'Musical Renaissance and Its Margins in England and India, 1874–1914', in *Music and Orientalism in the British Empire, 1780s to 1940s: Portrayal of the East*, ed. by Martin Clayton and Bennett Zon (Ashgate, 2007), pp. 71–93 (p. 74); Katherine Butler Schofield, 'Reviving the Golden Age Again: "Classicization," Hindustani Music, and the Mughals', *Ethnomusicology*, 54.3 (2010), pp. 484–517 (p. 488), doi:10.5406/ethnomusicology.54.3.0484. On Tagore's Hindu nationalism, see Gerry Farrell, *Indian Music and the West* (Oxford University Press, 1997), pp. 65–70; and Charles Capwell, 'Representing "Hindu" Music to the Colonial and Native Elite of Calcutta', in *Hindustani Music, Thirteenth to Twentieth Centuries*, ed. by Joep Bor (Manohar, 2010), pp. 285–311.

[52] Grosset, 'Inde', p. 259; 'poursuivre sur place l'étude patiente des débris subsistant encore de l'art ancien …'

[53] Grosset was actually in academic dialogue with Day, who cited Grosset's 1888 study of the *Nāṭyaśāstra* (see Charles Russell Day, *The Music and Musical Instruments of Southern India and the Deccan* (Novello, Ewer & Co., 1891), p. 161). On Day, with related discussion of the stakes of musical transcription, see Bennett Zon, *Representing Non-Western Music in Nineteenth-Century Britain* (University of Rochester Press, 2007), pp. 255–60.

decorated British army captain and participant in multiple imperial campaigns, also perpetuated an Indo-Europeanist agenda.[54] As Day claimed,

> The earlier music of the Sanskrit period bears a close resemblance, as far as we can judge, to that of the ancient Greeks, going far to prove that music has been derived from the same Aryan source, which seems probable, and has been discussed freely by different writers. The most flourishing age of Indian music was during the period of native princes, a little before the Mahomedan conquest; and with the advent of the Mahomedans its decline commenced; indeed, it is wonderful that it survived at all.[55]

Rehashing the Jonesian trope of a 'pure Hindu tradition' tarnished by 'Muslim' ('Semitic') infiltration and in need of recovery (i.e., through European colonial intervention), Day justified his particular interest in southern India through the specious contention that 'Hindu' ('Aryan') culture was preserved more 'purely' in the south, which was relatively insulated from Mughal invasions.[56] Grosset, too, adopted this belief: reasoning that 'southern India suffered less from the commotions which shook the rest of the peninsula, and remained under purely Hindu domination for longer than the North and the Deccan', he surmised that 'it is in this region that the pure tradition of Hindu art would be perpetuated, thanks to the uninterrupted study and conservation of the Sanskrit monuments'.[57] There is irony here, given the ostensibly linguistic rudiments of the Indo-European hypothesis, in that southern Indian languages have since the nineteenth century been classified (not without controversy) as 'Dravidian' rather than 'Indo-Aryan'.[58] Yet the logical incoherence fazed neither Day nor Grosset.

Among the most salient novelties of Day's study for the European reader was a table of the seventy-two heptatonic scales, presented in Western staff notation. These scales represent what had become known as the *melakarta* system for *rāga* classification. Here is not the place for a comprehensive introduction to the history and theory of the

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[54] After leaving Eton, Day joined the British military and was dispatched to India, where he fought against Mapilla uprisings in Malabar in the 1880s. He died fighting in the Second Boer War in South Africa. On Day's treatise in the context of British imperialism, broader Hindu nationalist classicization projects, and attendant Islamophobia, see Bakhle, *Two Men and Music*, pp. 57–62, and Subramanian, *From the Tanjore Court*, pp. 60–62.

[55] Day, *The Music and Musical Instruments*, p. 3. Day's Indo-Europeanist investments extend to organology: comparing the ancient Persian '*quanūn*' [*qanun*] to the psaltery, he declares, 'Hence the origin of the complicated pianoforte of the present day can thus be traced to the Aryans. And so with many others' (p. 102).

[56] If this contention is fundamentally discreditable on the basis of its essentialist premises, it may also be historically discredited on the basis of centuries of extensive land- and sea-based exchanges between Southern India and Northern Indian, Arabian, and East African regions, for example.

[57] Grosset, 'Inde', p. 267; 'L'Inde méridionale eut moins à souffrir des commotions qui bouleversèrent le reste de la péninsule, et resta plus longtemps que les régions du Nord et du Dékhan sous la domination purement hindoue'; 'C'est dans cette région que devait se perpétuer plus tard la pure tradition de l'art hindou, par l'étude ininterrompue et la conservation des monuments sanscrits'.

[58] See, for example, Amanda J. Weidman, *Singing the Classical, Voicing the Modern: The Postcolonial Politics of Music in South India* (Duke University Press, 2006), pp. 166–67; on the contested distinction between Indo-European and Dravidian languages by British imperial linguists, see p. 313 n. 22, and Thomas R. Trautmann, *Languages and Nations: The Dravidian Proof in Colonial Madras* (University of California Press, 2006).

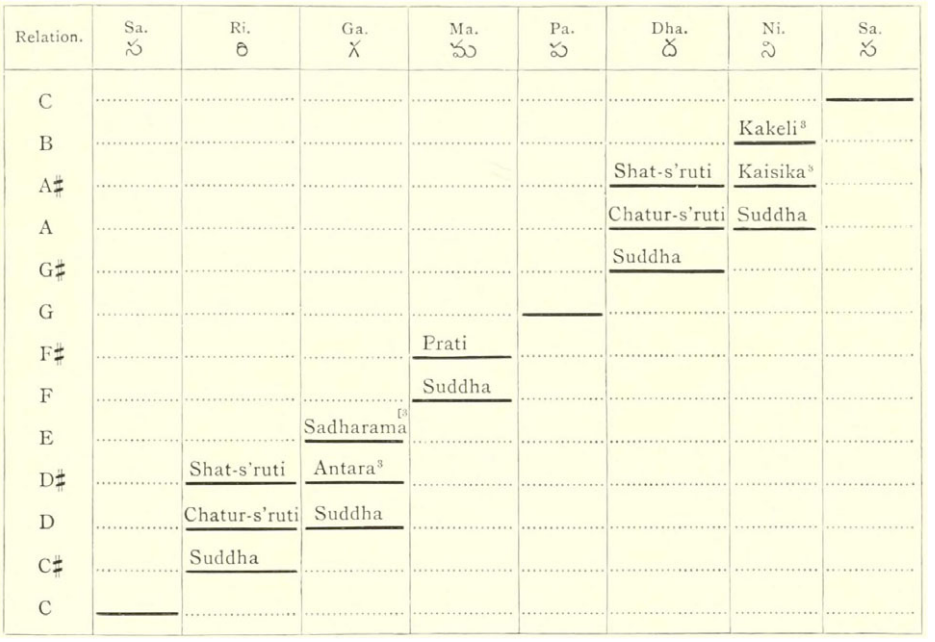
*melakarta*s; however, a brief overview of their background and construction will help situate later sections of this article and clarify the mediating effects of Day and Grosset's representations.[59] My aim is not to rectify or reify the *melakarta*s in an 'original' form — in any case, their status and utility was subject to vigorous debate in nineteenth- and twentieth-century Indian musicology, and I am no more able today than Day or Grosset a century ago to transparently represent them here. Rather, I hope to provide enough information to set into relief how they were reshaped by contingent contexts and priorities as they changed hands. The following account of the history and development of the *melakarta* system in the Indian context was not known to (or acknowledged by) the European musicologists, who took the *melakarta*s as a representation of the imminent properties of 'Indian music' rather than as a theory designed with contingent intellectual and creative objectives. Yet, as I shall suggest toward the end of this article, incorporating this history will allow us to posit certain shared impulses between Indian and French musicians and theorists across the centuries, which in turn will help productively reformulate the relationship between these two musical cultures.

Basically, the *melakarta* system elaborates potential arrangements of the seven *svara*s that divide the octave. Using the Indian nomenclature, the *svara*s *Sa* and *Pa* remain fixed; *Ma* can occupy one of two positions; and *Ri*, *Ga*, *Dha*, and *Ni*, can each occupy one of three positions, so long as overlaps are avoided — as schematized by Day in a comparative table (Figure 3). The resulting combinatorics yield seventy-two configurations of the *svara*s, organized into two groups of thirty-six (as a function of the position of *Ma*), each further divided into six groups of six (as a function of the positions of *Ri* and *Ga*). These scales, which are perhaps better thought of as categories, presumably facilitated fretting and tuning in preparation for a given *raga.* It should not go unnoticed that, as represented here, the heptatonic Greek modes (both diatonic and chromatic genera), and thus the European major and minor scales, may be located within this complex.

The *melakarta*s are widely attributed to the Sanskrit-language *Caturdaṇḍīprakāśikā* (mid-seventeenth century) of Veṅkaṭamakhin, who envisaged a fuller, more systematic alternative to the earlier *grāma-mūrcchana-jātī* classification tree than that of Somanātha (whose system Jones so prized).[60] According to Veṅkaṭamakhin, any

[59] For a range of thorough introductions to the scheme in English, see, for example, P. Sambamoorthy, *The Melakarta Janya-Raga Scheme with an Explanatory Chart and Two Appendices* (Indian Music Publishing House, 1929); R. Rangaramanuja Ayyangar, *History of South Indian (Carnatic) Music, from Vedic Times to the Present* ([n. p., 1972), ch. 17; Harold S. Powers, 'The Background of the South Indian Raga-System' (unpublished doctoral dissertation, Princeton University, 1958), pp. 17–22; or Ludwig Pesch, *The Oxford Illustrated Companion to South Indian Classical Music* (Oxford University Press, 2009), pp. 161–81. See also Weidman's response to the question, 'what does such a system exclude?' (*Singing the Classical*, p. 235).

[60] Powers further backdates the spark of a heptatonic taxonomy to Rāmāmātya's *Svaramelakalānidhi* (1550) ('The Background', p. 27); while Pesch cites research by K. C. D. Brahaspati demonstrating the historical influence of the *maqām* system, via Sufi musician Amīr Khusrau, on Veṅkaṭamakhin — a compelling hypothesis which would have been inadmissible to those invested in essentialist or Hindu nationalist narratives of Karnatic music (*The Oxford Illustrated Companion*, p. 170).



Relation.	Sa. ಸ	Ri. ಠ	Ga. ಗ	Ma. ಮ	Pa. ಪ	Dha. ಧ	Ni. ನಿ	Sa. ಸ
C								
B							Kakeli[8]	
A♯						Shat-s'ruti	Kaisika[3]	
A						Chatur-s'ruti	Suddha	
G♯						Suddha		
G								
F♯				Prati				
F				Suddha				
E			Sadharama[3]					
D♯		Shat-s'ruti	Antara[3]					
D		Chatur-s'ruti	Suddha					
C♯		Suddha						
C								

Figure 3. Table showing the relationship between the twelve semitones of the Western scale and the *melakarta* system, in Day, *The Music and Musical Instruments*, p. 31.

rāga could be classified into one of the *melakarta* scales on the basis of pitch content and certain taxonomic principles. Yet for all its abstract logic, Veṅkaṭamakhin's scheme was so full that it generated what might be described as a significant theoretical 'supplement': as Veṅkaṭamakhin himself admitted, *rāga*s in current practice could be classified using only nineteen of the *melakarta*s, upon which he expounded in his *Caturdaṇḍīprakāśikā*; as for the surplus fifty-three, representing purely theoretical potential, he merely alluded to the method by which they could be formed, affirming, 'I have designed it as a honeycomb cabinet to provide a niche for all *rāga*s past, present and future'.[61]

In due course, experimentally minded Karnatic musicians, including the celebrated Tyāgarāja, began composing using synthetic *rāga*s derived from these supplemental *melakarta*s (a feedback cycle which strengthened the *melakarta* theory itself as a representation of practice).[62] The scheme, widely admired for its elegant completism, gradually prevailed over numerous competing classificatory systems. By the turn of the nineteenth century, Govindācārya used a mnemonic nomenclature (*kaṭapayādi*) to

[61] Quoted in Ayyangar, *History*, p. 187; see also, Powers, 'The Background', p. 45. This is not atypical of Indian music theory; as Lewis Rowell notes: 'It was the job of theory to provide the widest selection of possibilities, but it remained for practice to select the most pleasing of these arrangements' (*Music and Musical Thought in Early India* (University of Chicago Press, 1992), p. 154).

[62] Sambamoorthy, *The Melakarta Janya-Raga Scheme*, p. 11; Pesch, *The Oxford Illustrated Companion*, p. 171.

bestow each *melakarta* with a moniker easily convertible into its pitch-sequence.[63] And by the early twentieth century, the *melakarta*s had accrued a privileged status in Karnatic music theory and pedagogy — a development which Amanda Weidman attributes in part to the universalist aura of their exhaustive combinatorial logic, which, if already integral to Veṅkaṭamakhin's scheme, also appeared to embody modern European ideals of rationalism. But that is not all: according to Weidman, the scheme served musical classicization agendas, fuelled by post-Jonesian discourses: by 'showing how scales or modes similar to the idea of scale in Western classical music were operative in Karnatic music, it became evidence that the two "systems" of music were "of the same family"'. This quasi-'natural history' of *rāga*s,[64] therefore, drew additional authority from its assimilability to European epistemological models, including comparative philology — by which Veṅkaṭamakhin's self-consciously constructed taxonomy came to be seen to disclose a deep-seated historical filiation.

Day's study reflected (and likely further promulgated) the *melakarta*s' mounting status in Karnatic music theory. Day does not offer the above history regarding the provenance or cultural significance of these scales, or his sources for them, although his use of the scales' *kaṭapayādi* names, '*precisely* as given in treatises in the vernacular,' suggests that his sources were written and relatively contemporary.[65] He illustrates how *rāga*s operate as melody-types, subject to distinct principles and characteristics (pitch hierarchies, ornamentation, etc.); and provides a ten-page list of what Indian theorists designate as *janya*, or 'derived' (ontologically if ahistorically), *rāga*s, classified by *melakarta* and listed with their name, pitch sequence (ascending/*ārohaṇa* and descending/*avarohaṇa*), and salient *svara*s (*vādi*/*saṃvādi*).[66] This proliferation of *rāga*s, Day explains, resembles what one would find in a musician's 'scale book' — lists of pitch classes, abstracted from practical knowledge regarding the realization of the *rāga* in performance, which is conveyed orally and internalized through experience.[67]

When adapting Day's discussion of the *melakarta*s for his chapter, Grosset duplicated the *melakarta* table (complete with *kaṭapayādi* nomenclature) under the heading, 'Tableau des 72 Échelles Karnâtiques en notation européenne' (Figure 4).[68] He alluded to the notion that a *rāga*'s substance extends beyond scale

[63] Govinda, *The Saṃgraha-Cūdā-Maṇi of Govinda and the Bāhattara-Meḷa-Kartā of Veṅkaṭa-Kavi*, ed. by S. Subrahmaṇya Śāstrī (Adyar Library, 1938), pp. 46–48. On the 'kaṭapayādi' mnemonic system, see Sambamoorthy, *The Melakarta Janya-Raga Scheme*, pp. 14–16; or Pesch, *The Oxford Illustrated Companion*, pp. 177–78.

[64] Weidman, *Singing the Classical*, pp. 234–36, 319 n. 34. According to Lakshmi Subramanian, Indian debates over the *melakarta*s in the early twentieth century frequently 'emphasized the isolation of the Deccan from Muslim influence', in efforts to preserve the *melakarta*s' Hindu pedigree (*From the Tanjore Court*, p. 88).

[65] Day, *The Music and Musical Instruments*, p. 30 (emphasis original). Day apparently referred to sources in the Telugu script (p. 30); he cites neither Veṅkaṭamakhin nor Govindācārya among his Sanskrit sources (pp. 165–68).

[66] Day, *The Music and Musical Instruments*, pp. 47–56.

[67] Ibid., p. 40.

[68] Grosset, 'Inde', pp. 324–66.

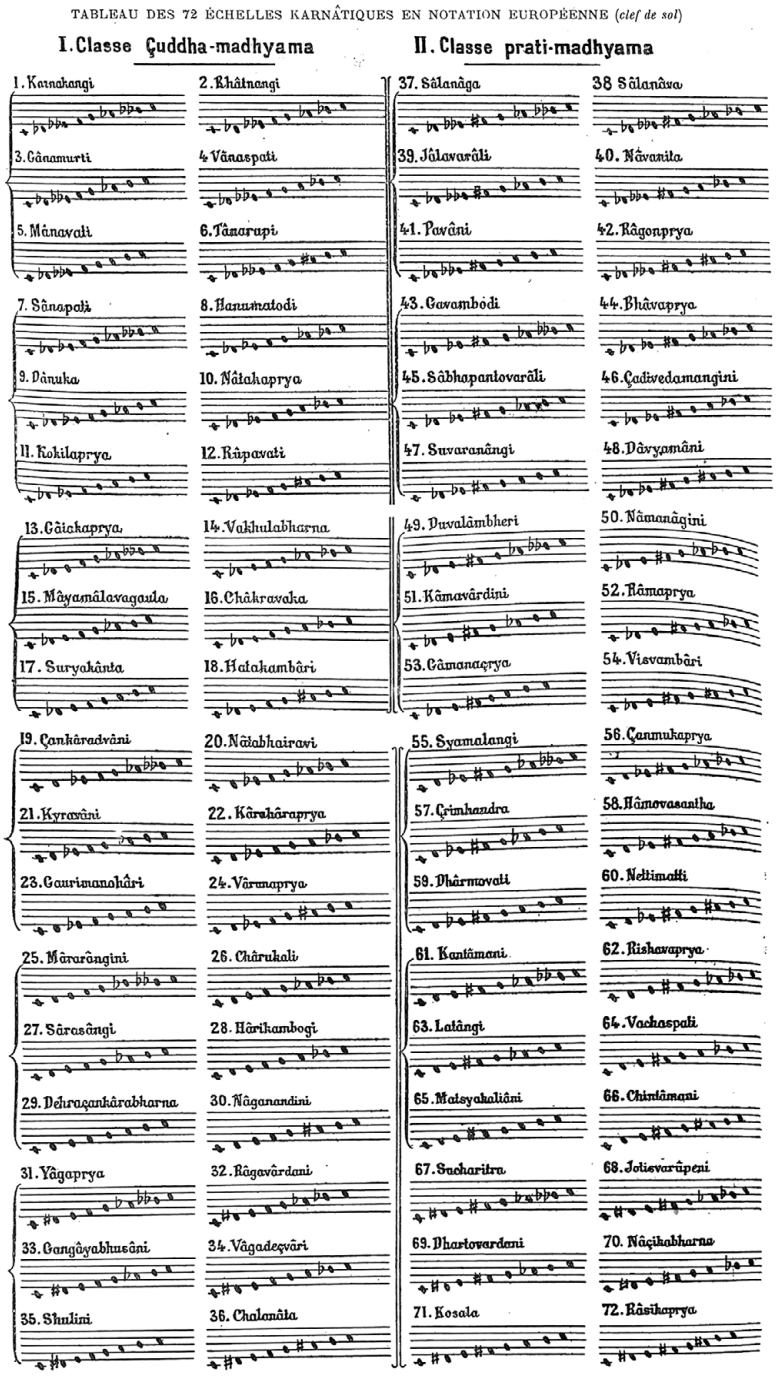


Figure 4. *Melakarta* table, in Grosset, 'Inde', pp. 325–26.

structure, reproducing one of Day's exact examples. But unlike Day, whose fieldwork in India gave him a fuller perspective of how theory related to practice, Grosset did not (perhaps could not) provide descriptions of how *melakarta*s related to *janya rāga*s, alluding to a handful by name alone and omitting their characteristics.[69] The centre of gravity — especially as far as notated musical examples go — was thus significantly displaced: Grosset put a proportionately greater emphasis on the theoretical *melakarta* 'scales' as the essential locus of Indian pitch organization — with each of the seventy-two equally weighted — at the expense of more characteristic *rāga*s, an unsubtle shift reflecting Grosset's philological preoccupation with 'structures' over 'surfaces', 'theory' over 'practice'.

Given its apparent (albeit incidental) incorporation of heptatonic scales from Greek, Roman, and modern European music theory, the *melakarta* system was conscripted by some to corroborate theories of essential Indo-European musical filiation. Prefacing Day's monograph, Alfred James Hipkins remarked that the author

> shows us interesting resemblances between the leading modes of old Greece and Asia Minor and certain favourite modes of the Hindus. There is no sure evidence of an intimate musical connection between those countries and India, a few scattered references in classical writers excepted; but the relationship of sister Aryan languages may have been paralleled by a relationship of musical types sufficient to justify a theory of descent instead of one of imitation.[70]

Grosset stopped short of explicitly positing a genealogical relationship between Indian and Greek music, but their conceptual proximity is taken for granted in his chapter. Suggestions of filiation lurk behind Grosset's frequent comparisons between features of Indian and Greek music, and his use of Greek-derived terminology to describe Indian concepts (with frequent reference to Bourgault-Ducoudray). Methodologically, too, Grosset aligned the historiography of Indian music with that of Greek music from the outset, conceiving both as remnants of a 'classical' culture, a 'lost art'.[71] Grosset's attitudes likely approximated those of his erstwhile professor, Regnaud, who declared in his preface to Grosset's edition of the *Nāṭyaśāstra* that Indian and Greek theatre shared 'an original ancestor reaching back to the faraway, primitive period of so-called Indo-European unity'.[72] His framing of the *melakarta*s thus aligned India and Greece, thereby reproducing the Aryanist historiographical model.[73]

But Greece was a model for Grosset in one more decisive respect. Inspired perhaps by his encyclopaedic commission from the Conservatoire, Grosset took a page from

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69 Ibid., p. 329.
70 Day, *The Music and Musical Instruments*, p. xi.
71 See, e.g., Grosset, 'Inde', pp. 257–58.
72 Regnaud in Bharata Muni, *Bhāratīya-nāṭya-çāstram*, p. x; 'une parenté originelle qui remonte jusqu'à la période lointaine et primitive dite d'unité indo-européenne'.
73 Arthur Henry Fox Strangways would also embrace this model in his *Music of Hindostan* (Oxford University Press, 1914): 'Neither is there any suggestion that Greece borrowed from India, or vice versa; their musical systems, like their languages, were no doubt part of their common Aryan inheritance — with enough likeness and unlikeness to make the comparison convincing' (p. 122).

Bourgault-Ducoudray's playbook, advocating that composers exploit ancient Indian music, too, for the nourishment of future art:

> Literature from all eras has enriched itself with borrowings; taking up material wherever it is found, literature has deftly benefitted from patient research, which has often led to some sort of creative imitation, an intelligent adaptation of the immortal work of extinct civilizations. Plastic arts have no less benefited from the resurrection of a long-forgotten past. Why shouldn't it be the same, in some respects, for music?[74]

Abstraction and Assimilation: Composing with *Melakartas* from the Opera House to the Organ Loft

In the remainder of the article, I survey the startling range of French composers who responded to Grosset's rhetorical question by way of the *melakartas* over the ensuing decades.[75] Grosset's representation of the *melakartas* arrived at a propitious moment, given proliferating interest in 'modes' among French composers and the increasingly identitarian stakes of modalism in musicological discourses. Bourgault-Ducoudray, having touted Greek modes in the Conservatoire's music history class in efforts to motivate French composers to embrace their 'Aryan' 'patrimony', began seeing the fruits of his advocacy in a new generation of acolytes prepared to carry his torch. Retiring from the Conservatoire in 1909, he was succeeded by a true believer in the form of Maurice Emmanuel, a Hellenist, musicologist, and composer who declared in his inaugural lecture his plan to 'pillage' Bourgault-Ducoudray's curriculum: 'I, too, will take up the cause of ethnic music, of *musique* "*de race*"…'.[76] Emmanuel trumpeted Bourgault-Ducoudray's fight against the 'tyranny of C Major' in favour of modality, using a remarkable political metaphor to urge the foundation of a variegated 'république modale' as the future of French composition — a sentiment he echoed in his own chapter on (ancient) Greek music in Lavignac's *Encyclopédie*, directly following Grosset's.[77] The same year, Woollett penned his own tribute, suggesting that composers should generalize Bourgault-Ducoudray's 'modal'

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[74] Grosset, 'Inde', p. 258: 'La littérature de toute les époques s'est enrichie d'emprunts; prenant son bien où elle le trouvait, elle a su profiter habilement de recherches patientes qui l'ont souvent conduite à une imitation en quelque sorte créatrice, à une adaptation intelligente des immortelles productions des civilisations éteintes. Les arts plastiques n'ont pas moins gagné à la soudaine résurrection d'un passé longtemps oublié. Pourquoi n'en serait-il pas de même, à certains égards, de la musique?'

[75] There is a parallel history to tell of British composers — including Gustav Holst, Maud MacCarthy, and John Foulds — who composed with the *melakartas* during a similar period, although the intellectual and relational contexts contrast considerably with the French case. See Nalini Ghuman, *Resonances of the Raj: India in the English Musical Imagination, 1897–1947* (Oxford University Press, 2014), and Suddhaseel Sen, '*Orientalism* and beyond: Tagore, Foulds, and cross-cultural exchanges between Indian and Western musicians', in *Studies on a Global History of Music: A Balzan Musicology Project*, ed. by Reinhard Strohm (Routledge, 2018), pp. 274–307.

[76] Maurice Emmanuel, 'Leçon d'ouverture au Conservatoire, le 9 décembre 1909', *L'Actualité musicale: annexe de la Revue musicale S.I.M.*, 1910, pp. 24–30 (p. 25); 'Je reprendrai pour mon compte l'apologie de la musique ethnique, de la musique "de race".'

[77] Ibid., p. 25; Maurice Emmanuel, 'Grèce', in *Encyclopédie de la musique et dictionnaire du conservatoire*, pp. 377–540 (p. 380).

precepts in order to 'create new and original music by inventing some unusual scale and writing the melody and harmony exclusively using the notes of that scale'.[78] Modalism, it was said, led to purified and simplified music characterized by clarity, order, and logic. For many, these qualities provided a corrective against Germanic chromaticism viewed as overwrought and decadent. For Woollett, modal 'purity' contrasted against the 'faults' of 'minute intervals' endemic to 'Semites'.[79] But whatever the source of the problem, Grosset's testimony to Indian music's unparalleled 'modal richness' offered a timely remedy.[80]

Revisiting Roussel's India(s)

Roussel's writings illustrate how such cultural anxieties infiltrated composers' reflections about their work. In 1909, he too desired that French musicians 'embody in an increasingly affirmative and vigorous manner, the genius of our race'.[81] During the ensuing years, Roussel would depict India in *Évocations* (1910–11) and *Padmâvatî* (1913–18). Unlike the French musicologists and composers discussed above, Roussel had recently honeymooned in India, keeping a slim notebook to record musical fragments and ideas.[82] His experience of Indian music was thus not limited to published scholarly resources — although, as he wrote to Woollett, he was not taken with the live music he overheard.[83]

Because both *Évocations* and *Padmâvatî* respond to India, they are often pooled together in accounts of Roussel's career. Their respective mediations of Indian music, however, are radically opposed, and taken together they neatly illustrate India's ambiguous position between faraway land of 'exotic' mysticism, and locus of shared 'Indo-European' heritage.[84] The choral-symphonic *Évocations*, as Jann Pasler has shown at length, projected a deliberately generalized 'exoticism'. Abiding by advice from Vincent d'Indy, his former professor at the Schola Cantorum, Roussel conceived *Évocations* as testimony to 'the sensations I felt over there translated into our ordinary musical language', 'more European than Hindu'. Rather than representing any specific emplacement or 'local colour', the object of Roussel's 'evocations' was deliberately

[78] Woollett, *Histoire*, I, p. 27; 'créer de toutes pièces une musique neuve et originale en inventant quelque gamme bizarre et en écrivant la mélodie et l'harmonie exclusivement avec les notes de cette gamme.'
[79] Ibid., I, pp. 53–58.
[80] Grosset, 'Inde', p. 371.
[81] Quoted in Scott Messing, *Neoclassicism in Music: From the Genesis of the Concept Through the Schoenberg/Stravinsky Polemic* (UMI Research Press, 1988), p. 12.
[82] Roussel, 'Carnet d'esquisses d'Albert Roussel', 1909, Brussels, Royal Library of Belgium (hereafter, B-Br), Mus. MS-1562. Roussel's travels with the French Navy in 1889–90 do not appear to have included India.
[83] Manfred Kelkel, 'Roussel et l'exotisme musical', in *Albert Roussel: musique et esthétique*, ed. by Manfred Kelkel (Vrin, 1989), pp. 71–83 (pp. 78–79).
[84] Kelkel's reading of these two works is notable for its attention to their contrasts, although he still reads *Padmâvatî* in opposition to Roussel's 'classicism'.

blurry — 'India, Tibet, Indochina, China, Persia, it doesn't matter'.[85] The lush result was more Debussyist than anything else.

Padmâvatî represented a major change of course. Incoming Opéra director Jacques Rouché commissioned either a 'drame lyrique' or a 'ballet' to be premiered at the start of his tenure — although World War One interrupted plans, so the work was only finalized in 1918 and premiered in 1923. Responding to Rouché's invitation, Roussel recalled the legend of Padmâvatî — the beautiful queen who, following the Mughal invasion of Chittor, chose to die rather than sacrifice herself to their leader, Alaouddin. He sought the collaboration of former Schola classmate Louis Laloy — musicologist, Hellenist, sinologist, and secretary-general at the Opéra. Although Roussel had seen Chittor and even paraphrased Padmâvatî's story in his travel journal, he and Laloy sourced two literary retellings from the library of the École des Langues Orientales, where Laloy had also studied.[86]

In contrast to the symphonic 'impressionism' of *Évocations*, Roussel turned to two formal models for *Padmâvatî.* The first was the 'opéra-ballet' — an emblematically French genre not staged at the Opéra since 1773 — thereby aligning *Padmâvatî* with the blossoming interest in pre-Revolutionary, Baroque forms (spearheaded partly by Rouché), while casting a competitive glance at the Ballets Russes.[87] Second were formal structures adapted from Indian music theory — specifically, the seventy-two 'Karnatic scales' — freshly published between the completion of *Évocations* and inception of *Padmâvatî.* This made Roussel likely the first composer to heed Grosset's chapter, and possibly the first French composer to compose with the *melakarta*s.[88] Following the modalism advocated by Bourgault-Ducoudray and Woollett, Roussel used these scales melodically and harmonically. Perhaps Roussel was drawn to the new resource by Laloy, who had favourably reviewed Grosset's 'voluminous treatise on Indian music, with examples, figures, and tables' right as *Padmâvatî* was being composed.[89] Perhaps, too, he had been inspired to explore Indian 'modes' by friends like Woollett (with whom he met during the composition of *Padmâvatî*), or Déodat de Séverac, another former classmate (who cited Indian

[85] Quoted in Pasler, 'Race, Orientalism, and Distinction', p. 94.

[86] The two sources are *Padmavat* by Malik Muhammad Jayasi (c. 1540) and *Gora Badal ri Katha* by Jatmal Nahar (1623), which were both examined by Théodore Pavie in *La Légende de Padmanî, reine de Tchitor* (Imprimerie Impériale, 1856). On the many retellings of this legend, see Ramya Sreenivasan, *The Many Lives of a Rajput Queen: Heroic Pasts in India, c. 1500–1900* (University of Washington Press, 2007). For the version in Roussel's journal, see Albert Roussel, *Lettres et écrits*, ed. by Nicole Labelle (Flammarion, 1987), pp. 183–84.

[87] Hugh Macdonald, '*Padmâvatî*: Œuvre Lyrique ou chorégraphique', in *Albert Roussel: musique et esthétique*, pp. 92–103 (p. 92). On *Padmâvatî* and the revival of opéra-ballet, see Davinia Caddy, *The Ballets Russes and Beyond: Music and Dance in Belle-Époque Paris* (Cambridge University Press, 2012), pp. 201–05.

[88] Prior to Roussel, Holst had borrowed several of these scales directly from Day for his *Choral Hymns from the Rig Veda*, op. 26 (1908–12); see Nalini Ghuman, *Resonances of the Raj*, pp. 130–37.

[89] Louis Laloy, 'La Musique chez soi', *Comœdia*, 12 February 1914, p. 2; 'volumineux traité sur la musique indienne, avec exemples, figures et tableaux'.

'modes' in his *Héliogabale* a few years earlier).[90] Roussel's turn to Indian 'modes' reflects a preoccupation with projecting 'authenticity' in *Padmâvatî* which, if not new in French exoticist or classicist composition, contrasts with his deliberately nebulous approach in *Évocations.* Roussel stressed the stakes of accuracy in the music and libretto in a bizarre remark to Laloy that 'masses of Hindus could come to France after the war, and it behoves us to pay attention to all these details!'[91] Whether we interpret his tone as sincere or arch, Roussel's actions show his determination that *Padmâvatî* be received as 'authentic'.

His attention to detail paid critical dividends, as the 'Indian modes' were widely praised by critics and colleagues. In an exceptionally analytical review for *Le Temps*, Henry Malherbe identified one *melakarta* by name and distinguished Roussel's approach from the 'confusing dissonances' of the latest compositional fads, writing, 'pure reason governs every part of this work'.[92] Nadia Boulanger addressed 'the influence of the Indian scale' on *Padmâvatî*, and even referred to its 'Aryan' origins, in a 1925 lecture at Rice University.[93] Much was made of Roussel's modalism in the 1928 special issue of *La Revue musicale* dedicated to his music — with Arthur Hoérée echoing the conception of 'Hindu' music as 'the most fecund from a modal point of view' — and again the following decade, when Paul Landormy analysed *Padmâvatî* following the composer's death.[94]

This trope of *Padmâvatî*'s reception reverberates in more recent years as scholars continue to emphasize Roussel's 'profound' engagements with Indian musical forms. Richard Langham Smith lauds the score as 'deeply rather than superficially inspired by oriental musical techniques', noting that 'many of the melodies and their resultant harmonies have their basis in synthetic or oriental modes'. Hervé Lacombe, commenting likewise on the 'ancient and oriental musical modes', regards *Padmâvatî* as 'without question the end product of exotic opera's long evolution'. For Jean-Marc Moura, it is 'a far cry from the simple exotic effects of the turn of the century', while Jackie Assayag describes *Padmâvatî* as 'an authentic musical India, no longer a simple, allusive musical colour', viewing a 'paradox' in the work's simultaneous debts to the French

[90] Roussel's diaries show that he met Woollett on at least one occasion in 1914 (4 April) (Bibliothèque nationale de France (hereafter F-Pn), RES VMF MS-120). On Séverac and *Héliogabale*, see above, note 46.

[91] Arthur Hoérée, 'Lettres d'Albert Roussel à Louis Laloy', *Cahiers Albert Roussel*, 2 (1979), pp. 72–74 (p. 73); 'Il peut venir après la guerre un tas d'Hindous en France et il convient de faire attention à tous ces détails!'

[92] Henry Malherbe, *Le Temps*, 6 June 1923, p. 3; 'Une pure raison ordonne chaque partie de l'ouvrage'.

[93] Boulanger wrote of Gora's aria, 'This first melody is constructed on a scale we find employed only in the Greek system; it is employed in the Greek system, but generally comes from the Aryan …' (*Nadia Boulanger: Thoughts on Music*, ed. by Jeanice Brooks and Kimberly Francis, Eastman Studies in Music (University of Rochester Press, 2020), p. 371).

[94] Arthur Hoérée, 'La Technique de Piano d'Albert Roussel', *La Revue musicale*, 10.6 (1929), pp. 84–103 (p. 88); 'la plus féconde au point de vue modal'; and Paul Landormy, 'Albert Roussel (1869–1937)', trans. by Manton Monroe Marble, *The Musical Quarterly*, 24.4 (1938), pp. 512–27, doi:10.1093/mq/XXIV.4.512.

opéra-ballet.[95] However, I would venture that the real distinction these scholars are seizing upon — described in terms of the frequent opposition in discourses of exoticism between 'surface' and 'depth', 'superficial representation' and 'profound knowledge' — is more precisely attributable to the textualism and formalism privileged by Indo-Europeanist philological mediation, whereby the *melakarta*s were reified as fundamental 'structures' of an Aryanized 'Hindu' music — and thereby viewed as assimilable to a racialized, modalist conception of French music.

And there is further evidence of this mediation in Roussel's score. For, despite all the attention paid to *Padmâvatî*'s 'modality', what is never noted (at least not explicitly, and perhaps in earlier commentaries it appeared too obvious) is that Roussel's deployment of the *melakarta*s was targeted. The melodies adhering most closely to the 'modal' collections, melodically and harmonically, are arias sung by the opera's Hindu characters — such as Gora, the brahmin, and Padmâvatî herself — and not Allaoudin or his Mughal forces. Gora's opening address adheres to the seven pitches of the fifty-first *melakarta* (with the rare chromatic appoggiatura in the orchestra; Example 1, compare to Figure 4); the brahmin's dreamlike aria, including accompanying strings and harp, adheres strictly to the pitches of the thirty-third *melakarta*, transposed on A (Example 2, scale no. 33 in Figure 4); and Padmâvatî's aria closing the first act is based upon the fifteenth *melakarta*, dramatized with a transposed and chromatic middle section.[96]

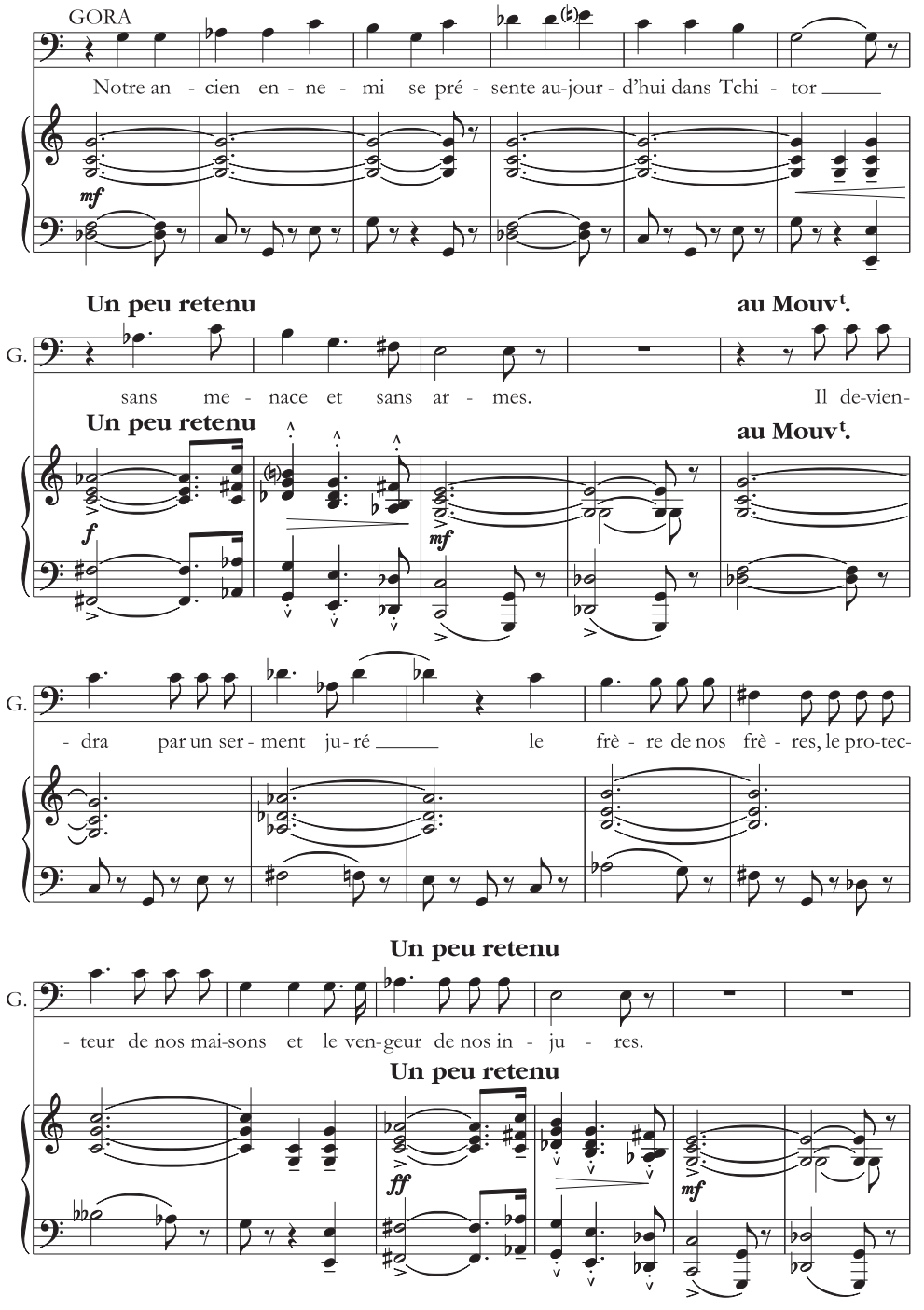
Roussel thus deployed 'modes' marked by European musicologists as distinctly 'Hindu' to create a distinct sonic space for characters aligned with an ostensibly 'Aryan' culture, in contrast to more stereotypical 'exoticism' and denser chromaticism deployed in connection with the 'Muslim' invaders. Roussel's calculated recourse to *melakarta*s for 'Hindu' arias suggests he may have absorbed the hypothesis of an 'Indo-European' 'modal' genealogy, and sewn into the compositional fabric a sort of musical identification with the Hindu characters and their resistance against threatening 'others'. And in embedding these 'modes' into his 'opéra-ballet', Roussel further inscribed the link between 'Hindu' and French music which was a mainstay in musicological representations of India.[97] In this reading, Roussel's use of 'modes' represents not so much a departure from

[95] Richard Langham Smith, 'Padmâvatî', *Grove Music Online* (2002), doi:10.1093/gmo/9781561592630.article.O003313; Jean-Marc Moura, *La Littérature des lointains. Histoire de l'exotisme européen au XXe* siècle (Honoré Champion, 1998), p. 390 n. 17; Hervé Lacombe, *The Keys to French Opera in the Nineteenth Century*, trans. by Edward Schneider (University of California Press, 2001), p. 205; Assayag, *L'Inde fabuleuse*, p. 61 ('une authentique Inde musicale qui n'était plus une simple couleur musicale […]').

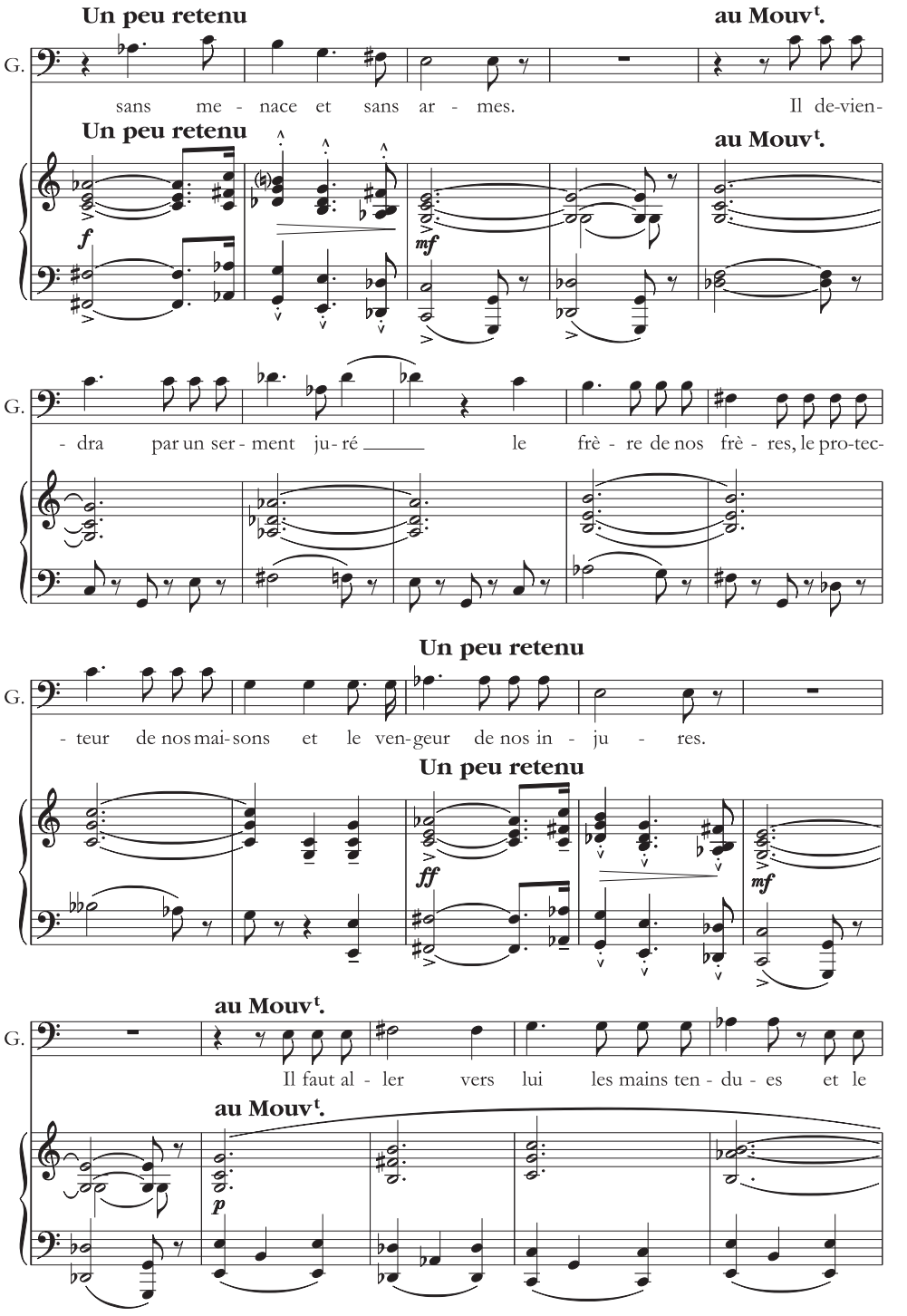
[96] For a more detailed analysis of *Padmâvatî* in terms of Grosset's scales, see Kelkel, 'Roussel et l'exotisme', pp. 80–81. The nomenclature varies slightly depending on source and language: for example, where Govinda writes 'Kāmavardhani' in Sanskrit, Day (following Telugu sources) and Grosset (following Day) write 'Kâmavârdini' for the fifty-first *melakarta.* I will therefore use the numerical designations, consistent throughout the sources.

[97] The sympathetic identification would be further enhanced by the fact that the four extracts of *Padmâvatî* published as offprints were arias sung by the opera's Hindu characters (three of them 'modal'), allowing French amateurs and publics to embody the *melakarta*s themselves.

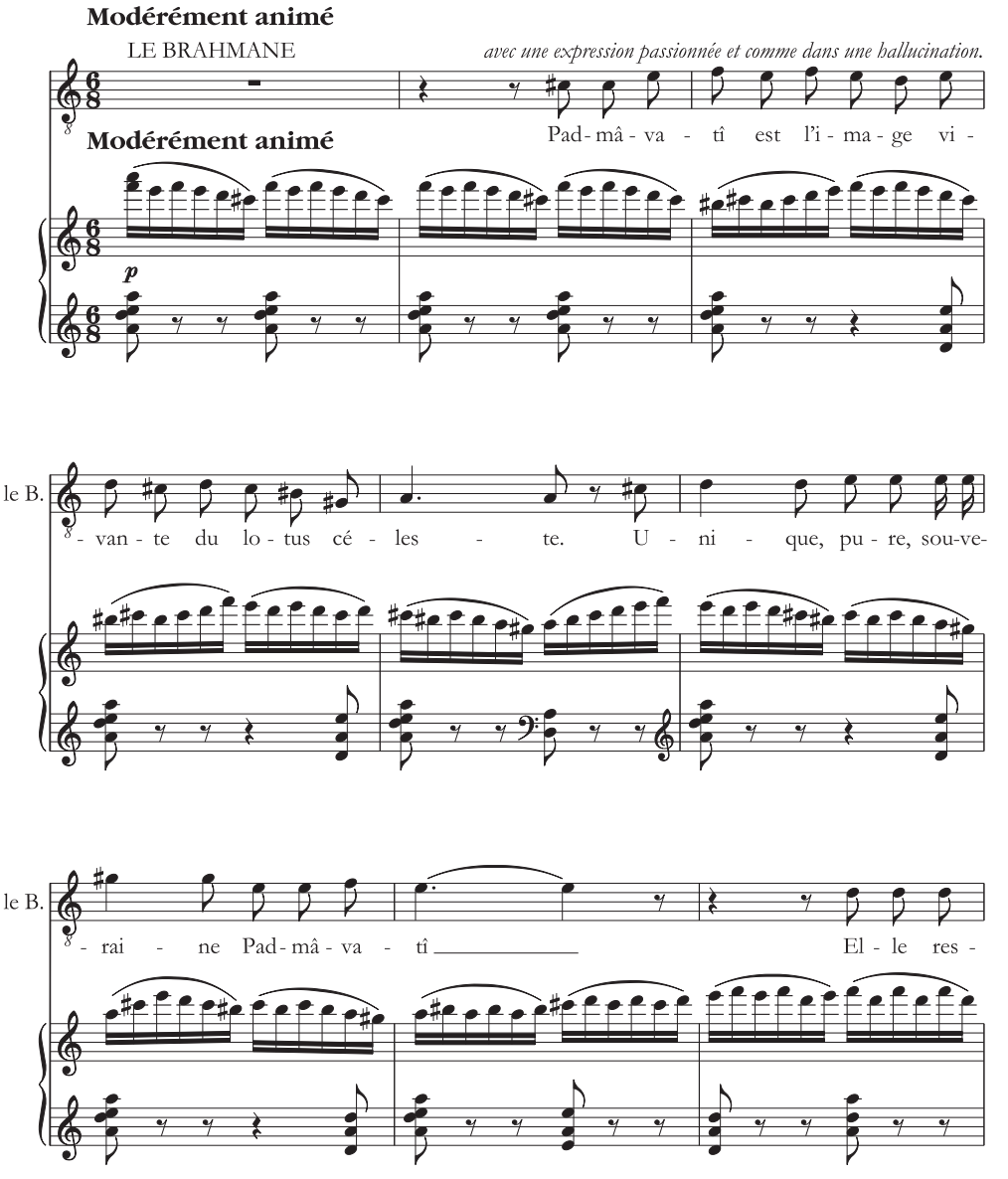
Example 1. Roussel, *Padmâvatî*, Act I, scene 1, bars 43–81.



Example 1. Continued.



Example 2. Roussel, *Padmâvatî*, Act I, scene 2, bars 695–703.



stereotypical musical 'exoticism' as such (which remains in abundant supply, directed especially toward Alaouddin and his entourage), but rather manifests the compositional fruition of racialized musicological discourses of 'Indo-European' patrimony. That the borrowing operates on a 'structural' rather than 'superficial' stratum is, relatedly, a by-product of the quasi-philological conception of musical families, akin to language families, sharing fundamental elements of their 'construction', as Bourgault-Ducoudray

had put it. By replacing the Indian melodic impressions of *Évocations* with a philologically mediated 'structures' of ostensibly 'Indo-European' music, Roussel reconfigured his own subject position with respect to India — recasting it from a musical 'other' to an 'other' classic. Thus, in *Padmâvatî*, 'opéra oriental' and 'opéra-ballet' are nested like Russian dolls into multiply embedded musical 'pasts' in a project of ethnic-nationalist recomposition.[98] In this reading, *Padmâvatî* manifests Roussel's 1909 pronouncement on the importance of 'embodying race' in compositional practice; he would reaffirm these sentiments in 1926, imploring that 'each race conserve in its music the ethnic character that gives it its particularity and originality'.[99]

As a post-script to this reading of *Padmâvatî*, it is worth picking up the thread of paratextual labelling to show how Roussel negotiated the 'archaeological' and 'philological' models of borrowing outlined above: for, in addition to his novel use of the *melakarta*s, Roussel appears to have departed from his predecessors' 'archaeological' practices by not labelling his borrowings in the score. However, upon closer inspection, the question of labels caused Roussel hesitation when it came to three passages: two soliloquies — Nâkamtî's melody in Act I, scene 3 (reprised orchestrally in the work's final moments), and Padmâvatî's 'modally' harmonized aria that concludes the first act — and the instrumental theme accompanying the 'danse des femmes esclaves'. In the published piano-vocal score, these melodies are unmarked. But proofs from Durand, with Roussel's handwritten corrections, reveal that Roussel had originally labelled these passages, respectively, 'Chant hindou', 'D'après un chant hindou', and 'Chant arabe'. These labels, printed in the proofs, were redacted by Roussel and eliminated from publication (Figures 5a and 5b).[100]

Roussel's initial impulse to label these melodies again exemplifies his concern for projecting 'authenticity', and one can only conjecture as to why he recanted. Perhaps Roussel was responding to shifting tastes between 1914 (when the bulk of *Padmâvatî* was composed) and after the Armistice (when he was correcting proofs). The postwar acceleration of stylistic shifts toward more formalist (neo)classicism and away from 'exoticist' representation may have led Roussel to rethink the overtness of his borrowing.[101] This explanation resonates in the press coverage's prevailing focus on the work's generic tribute to the opéra-ballet (including obligatory comparisons to Rameau's *Indes*

[98] I borrow the image of Russian dolls from Katharine Ellis, 'Patrimoine in French Music: Layers and Crosscurrents from the Romantics to the 1920s', in *Historical Interplay in French Music and Culture, 1860–1960*, ed. by Deborah Mawer (Routledge, 2018), pp. 15–37 (p. 20).

[99] Roussel, *Lettres et écrits*, p. 266; 'je souhaite que chaque race conserve dans sa musique les caractères ethniques qui lui donnent son aspect particulier et son originalité.'

[100] '*Padmâvatî*, épreuves d'imprimerie, annotations d'Albert Roussel', pp. 51, 91, 123; B-Br, Mus. 5.938. As to Roussel's potential sources: none of the sketches in his travel notebook match Nâkamtî's or Padmâvatî's arias. Apparently the 'Chant Arabe' was overheard by Roussel in Touggourt, Algeria; Nadia Boulanger, 'L'Œuvre théâtrale d'Albert Roussel', *La Revue musicale*, 10.6 (1929), pp. 104–12 (p. 111).

[101] Hugh Macdonald contends that *Padmâvatî* would have become more enduringly popular had it premiered in 1914, as intended — when tastes for exoticism (and ballet) remained at a pinnacle — rather than in 1923 ('*Padmâvatî*', p. 95). Relatedly, Roussel abandoned another planned 'opéra oriental' during the War years, *Le Roi Tobol* (Roussel, *Lettres et écrits*, pp. 55, 296).

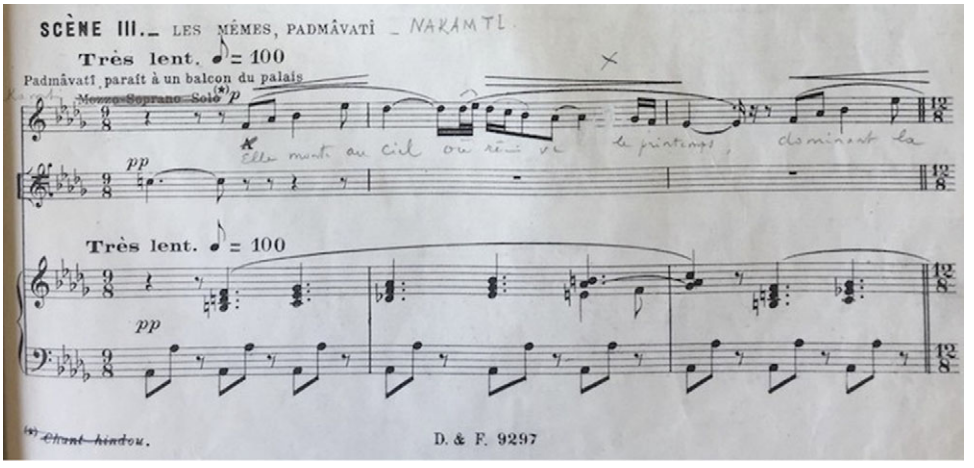


Figure 5a. Printer's proof, Roussel, *Padmâvatî*, vocal score, Act I, scene 3, bars 1–3 (Brussels, Royal Library of Belgium, Mus. MS-1562) (author's photograph).

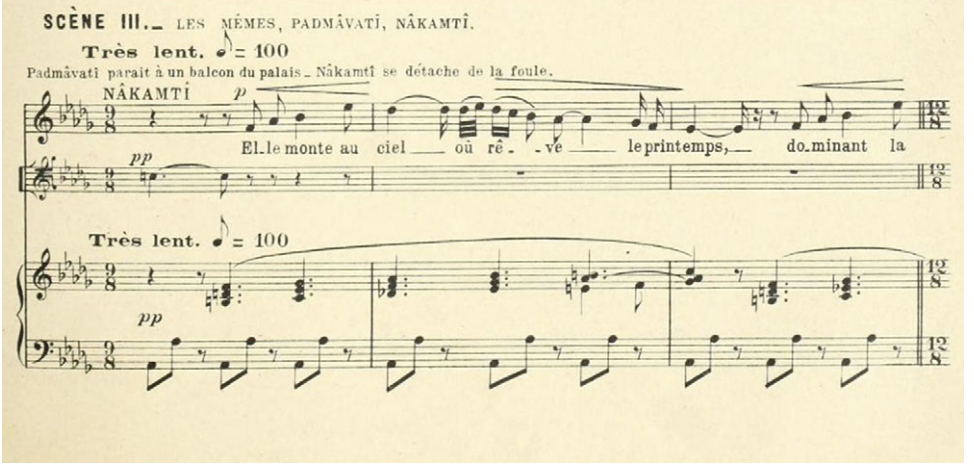


Figure 5b. Published edition, Roussel, *Padmâvatî*, vocal score, Act I, scene 3, bars 1–3.

galantes),[102] as well as with Roussel's repudiation of impressionistic representation, 'external devices', and 'picturesque procedures' after the war.[103]

Roussel's labelling and unlabelling might be read as two illocutionary acts: the labelling, a performance of 'authenticity' via paratextual attribution; and the unlabelling, a suppression of pictorialist (quasi-archaeological) quotation in favour of

[102] See dossier of press clippings at F-Pn, 8-RSUPP-1949.

[103] Roussel, *Lettres et écrits*, p. 210: 'Ces quatre années ne furent pas perdues pour moi. Je les employai à réfléchir sur mon art. J'avais, comme tant d'autres, été entraîné par les modes nouveaux de la création musicale. L'impressionnisme m'avait séduit; ma musique s'attachait trop peut-être, aux moyens extérieurs, aux procédés pittoresques qui — j'en ai jugé ainsi plus tard — lui enlevaient une part de sa vérité spécifique.'

modal construction, conceived not as an external borrowing but as immanent racial inheritance — in other words, a performance of identity.[104] This procedure recalls that of Bourgault-Ducoudray, who did not demarcate his Greek borrowings as 'other' but instead wove them into his compositional 'language' at a self-consciously structural level, a procedure he legitimated through an appeal to their common patrimony. This dual element — the reification of 'structures' and their concomitant classification, or racialization, as 'Indo-European' — is the hallmark of philological mediation.

In the later 1920s, Roussel pushed this formal assimilation further, defining his 'modes' with reference to not Indian but European terminology — e.g., 'major scale with raised fourth scale degree, and lowered second and sixth scale degrees'.[105] And Boulanger — having previously evoked the 'Aryan' source of Roussel's scales — replaced mention of 'Indian' modes with a formalist technicity in her more influential 1929 article on Roussel's theatrical music, describing his 'modifications of tetrachords, thus altering the scale and forming new harmonies'.[106]

Emmanuel's 'Hindu' modalism

Roussel again asserted his 'modal' prowess in exclusively formalist terms in a letter to Maurice Emmanuel — Bourgault-Ducoudray's successor as Conservatoire historian and champion of the 'modal' cause — in response to Emmanuel's 1928 manifesto, 'La Polymodie', to which we shall return later.[107] Yet by that time Emmanuel was perfectly aware of *Padmâvatî*, and had been familiar with the *melakarta*s directly for over a decade. In fact, it was Emmanuel who articulated most systematically and explicitly the Indo-Europeanist case for the scales' relevance, in a 1919 essay for the *Revue des études grecques*.

In this article, Emmanuel exposed his theory of the 'Corps de l'Harmonie' — the essential pitch structure which he considered a 'manifestation of the deep instincts of the Aryan race' — using the *melakarta*s as evidence.[108] According to Emmanuel, the 'Corps de l'Harmonie', defined by Aristotle, comprised the structural division of the octave into the 'consonant' perfect intervals of a fourth and fifth. This structure, Emmanuel continued, 'still regulates the 72 modal scales of contemporary India. The

[104] Another parallel might be drawn between Roussel's rhetorical practice and that of Stravinsky, who denied his quotations of folk melodies in *Le Sacre du printemps*, appealing to a notion of 'unconscious "folk" memory' (quoted in Richard Taruskin, 'Russian Folk Melodies in "The Rite of Spring"', *Journal of the American Musicological Society*, 33.3 (1980), pp. 501–43 (p. 503), doi:10.2307/831304) which might be likened to Roussel's ideas of 'ethnic character'.

[105] Quoted in Kelkel, 'Roussel et l'exotisme', p. 80; on Roussel's own modal analyses of his works, with reproduced excerpts, see Daniel Kawka, 'Une auto-analyse inédite d'Albert Roussel', *Revue internationale de musique française*, 19 (1986), pp. 83–91.

[106] Boulanger, 'L'Œuvre théâtrale', p. 297; 'Modifications des tétracordes altérant la gamme et formant de nouvelles harmonies.'

[107] Roussel, *Lettres et écrits*, pp. 139–40.

[108] Maurice Emmanuel, 'Le Corps de l'harmonie d'après Aristote', *Revue des études grecques*, 32 (1919), pp. 179–89 (p. 189); 'une manifestation des instincts profonds de la race aryenne'.

old musical language has persisted there just as faithfully as their religious rites, of which music indeed appears an integral part'.[109]

Emmanuel's representation of the *melakarta*s diverges from his predecessors': rather than listing all seventy-two scales (as had Grosset, Day, and for that matter, Govindācārya), Emmanuel played comparative philologist, deconstructing scales into basic 'constitutive tetrachords' inspired by Greek theory — abstract(ed) structures presumed to link 'Aryan' musical cultures, just as verbal roots linked Indo-European languages. He defined six basic tetrachordal types, according to the 'orientation' of semitones within them (descending, ascending, neutral) — a classificatory criterion based not on Grosset's article but on Emmanuel's own extrapolation from theories of ancient Greek modality. Any two tetrachordal types could then be combined at the interval of perfect fifth, thereby filling the space of an octave within the structure of the 'Corps de l'Harmonie' and generating thirty-six unique scales (Figure 6a). The 'Hindus', Emmanuel continued, go even further, admitting the possibility of a sharped fourth into the lower tetrachord, thereby doubling the number of unique scales to seventy-two.

Having reconceived the *melakarta*s according to this generative system, Emmanuel took to comparison: 'all of the Hellenic modal scales, in both the diatonic and chromatic genera, can be found in the table of Hindu modes'.[110] As proof, he listed the Greek modes, labelling each tetrachordal building block with a digit corresponding to his analysis of their Indian cognates (Figure 6b). As his *pièce de résistance*, he cited the Delphic Hymn, excavated in 1893 and arranged by Théodore Reinach and Fauré, to show how the 'Hindu' scales preserve musical principles 'practised by the Greeks, over two thousand years ago'.[111] For Emmanuel, therefore, the relationship between the *melakarta*s and modern music is not so much ancestral as familial, preserving something of the 'racial' essence of a common 'proto-Indo-European' source: 'the Aryans of India,' Emmanuel concluded, 'seem to have made it their job to inventory and develop, to this very day, the forces that lie in the ancient scales'.[112]

Emmanuel's quasi-philological reverse-engineering constitutes a turning point in the formalist abstraction of the 'modes'. Without acknowledging that the *melakarta*s were already a taxonomic abstraction of *rāga*s, he atomized them further, thereby affording his comparativist agenda. Analysis was not Emmanuel's ultimate goal, however: in conclusion, he made a familiar appeal to the artistic potential generated

[109] Ibid., p. 184; 'Il régit encore les 72 échelles modales de l'Inde contemporaine. La vieille langue musicale s'y est perpétuée aussi fidèlement que les rites religieux, dont elle semble d'ailleurs, faire partie intégrante'.

[110] Ibid., p. 187; 'Toutes les échelles modales helléniques, dans les deux genres diatonique et chromatique, se retrouvent dans le tableau des modes hindous'.

[111] Ibid., p. 188; 'l'Harmonie hindoue de la forme[…]a été pratiquée par les Grecs, il y a plus de deux mille ans'.

[112] Ibid., p. 189; 'Les Aryens de l'Inde semblent avoir pris à tâche d'inventorier et de développer, de nos jours même, les forces latentes de antiques séchelles [sic].'

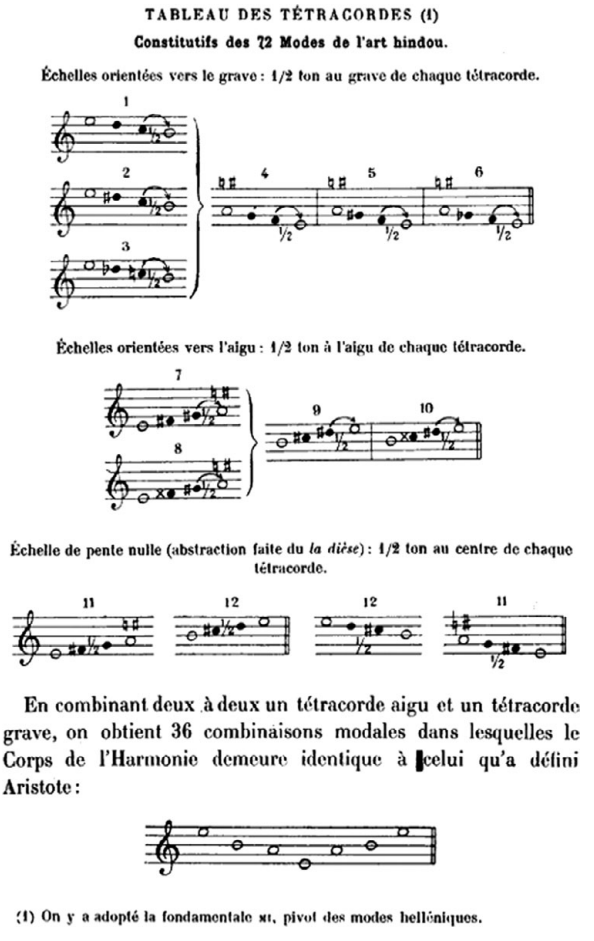


Figure 6a. Emmanuel, 'Le Corps de l'harmonie d'après Aristote', p. 185.

by what he called this 'modal mine of inexhaustible richness'.[113] Like Bourgault-Ducoudray and Woollett, he contrasted 'modality' with the 'disorder' of chromaticism (carefully distinguishing between the salubrious ancient heptachordal chromatic genus and overripe modern chromaticism of twelve semitones), and exhorted today's musicians to act: 'the Hindu bard, who still resounds the Harmonies with which Aeschylus and Sophocles shook their spectators, possesses resources […] of which our artists so wrongly deprive themselves.'[114]

Emmanuel led by example the following year in his *Sonatine IV sur des modes hindous* (1920), executing like Roussel a superposition of 'classical' Indian and French forms.

[113] Ibid., p. 184; 'mine modale d'une inépuisable richesse'.
[114] Ibid., p. 189; 'L'aède hindou qui fait vibrer encore les Harmonies par lesquelles Eschyle et Sophocle secouaient les spectateurs de leurs drames, possède des ressources dont nos artistes […] ont le grand tort de se priver'.

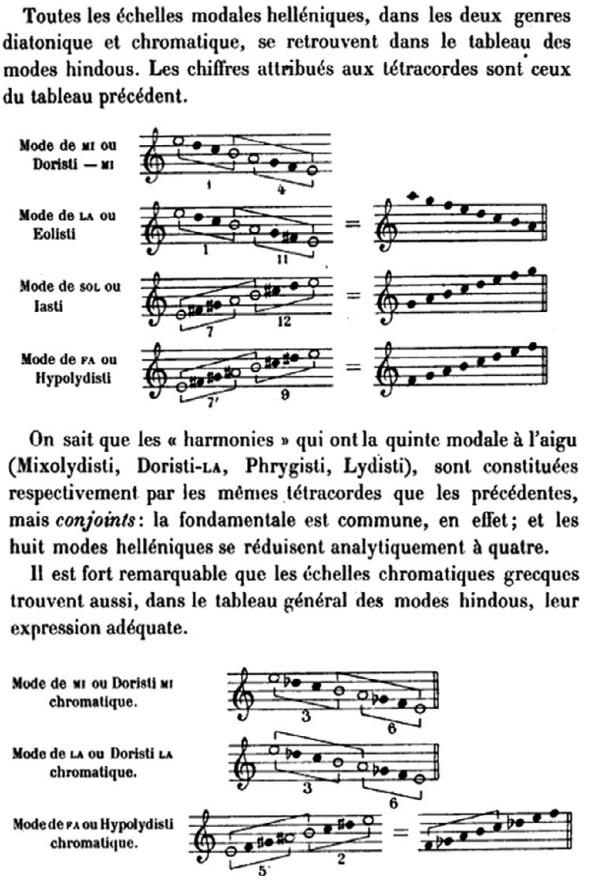
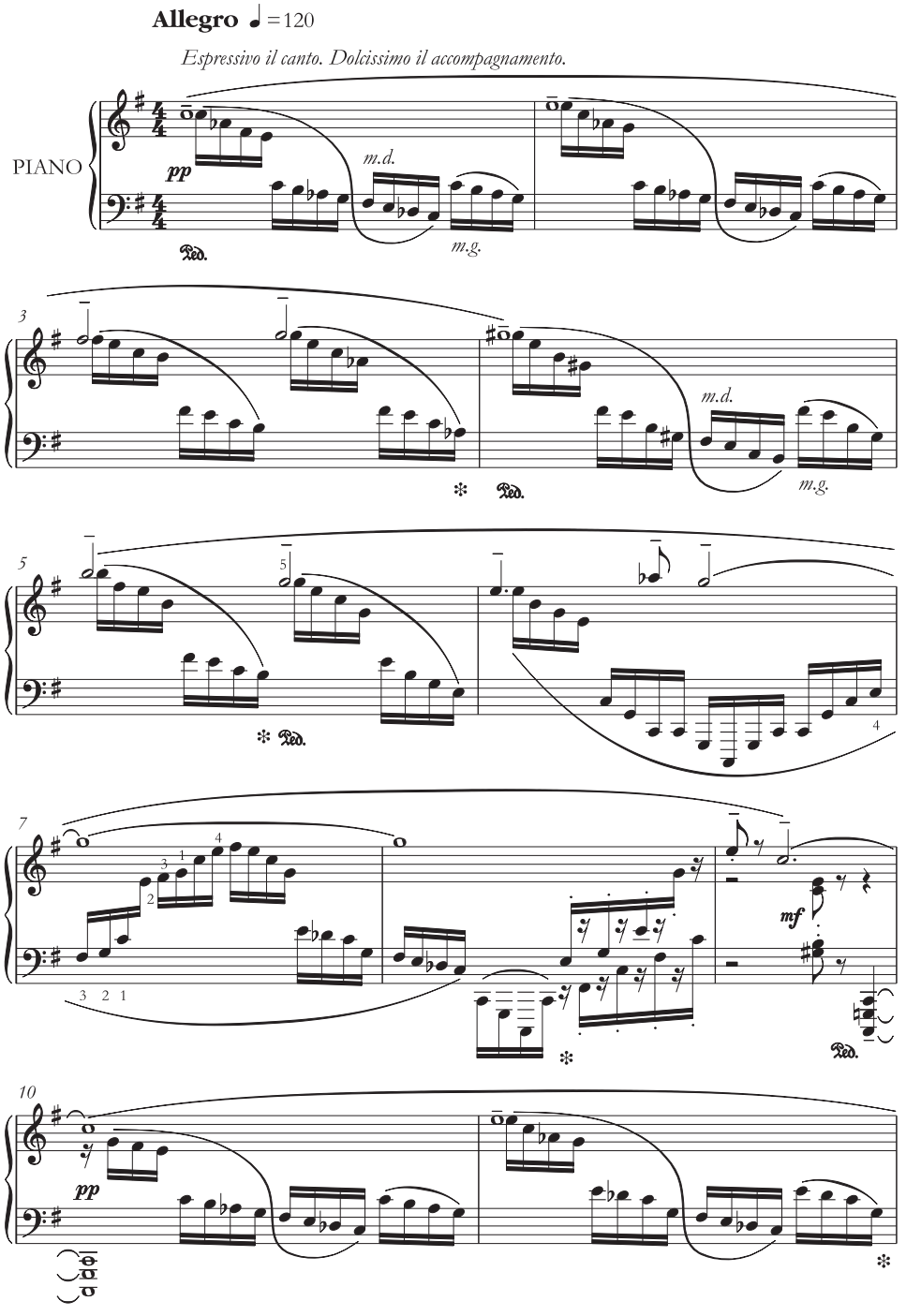


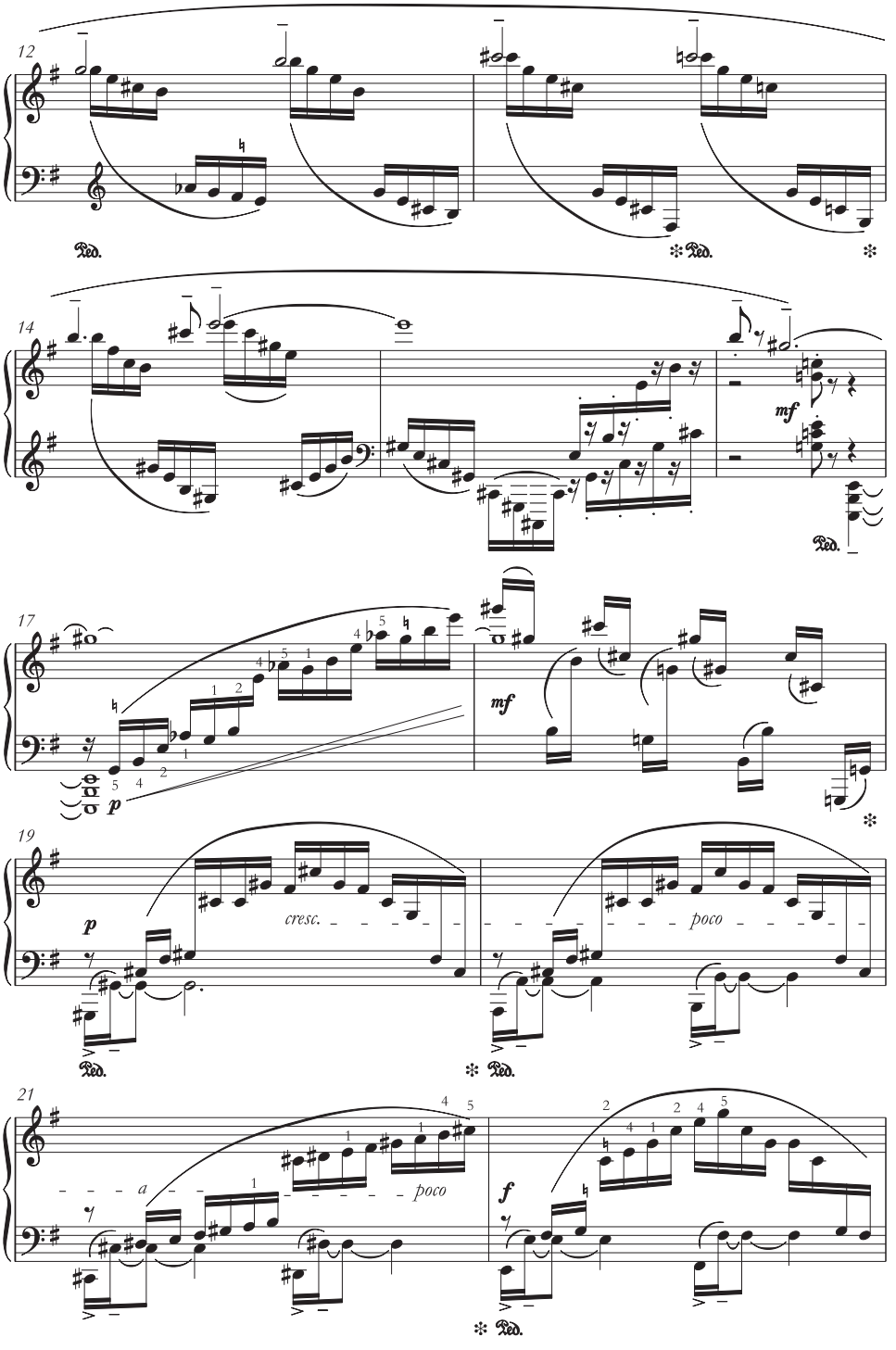
Figure 6b. Emmanuel, 'Le Corps de l'harmonie d'après Aristote', p. 187.

Conceptually, Indian 'modality' represents a short hop from the 'folk modality' of Emmanuel's first and third sonatinas (1893, 1920). Nevertheless, this sonatina may represent the first deployment of Indian 'modes' in French music with no corresponding programmatic content. Emmanuel uses the scales harmonically, shifting kaleidoscopically from one *melakarta* to another. In the first movement (see Example 3), the opening twenty bars strictly adhere to the seven pitches of Grosset's the fifty-first *melakarta* (also used by Roussel), on C; Emmanuel then introduces a modulation (bars 21–23), rotating new pitches in and old ones out until he can state a variant of the opening theme on D. The short development-like section features additional chromatic encroachments until the music is restored to the opening scale, on C, in a coda. Within sections adhering to a single *melakarta*, Emmanuel deftly manoeuvres between key areas: in the opening passage, for example, he uses A♭/G♯ as a pivot between local tonics on C and E. Thus, Emmanuel organizes a compact sonata form framework

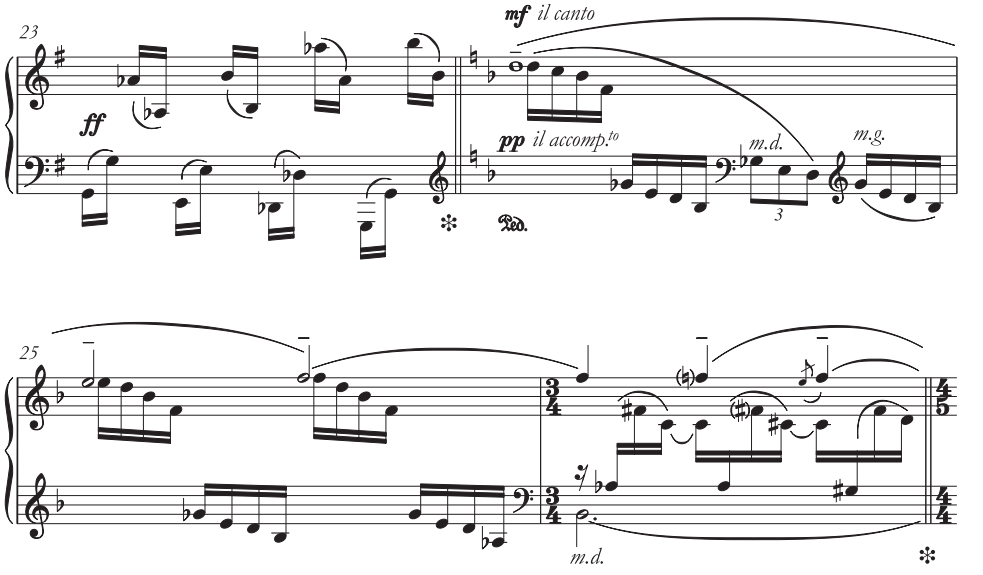
Example 3. Emmanuel, *Sonatine IV sur des modes hindous*, bars 1–26.



Example 3. Continued.



Example 3. Continued.



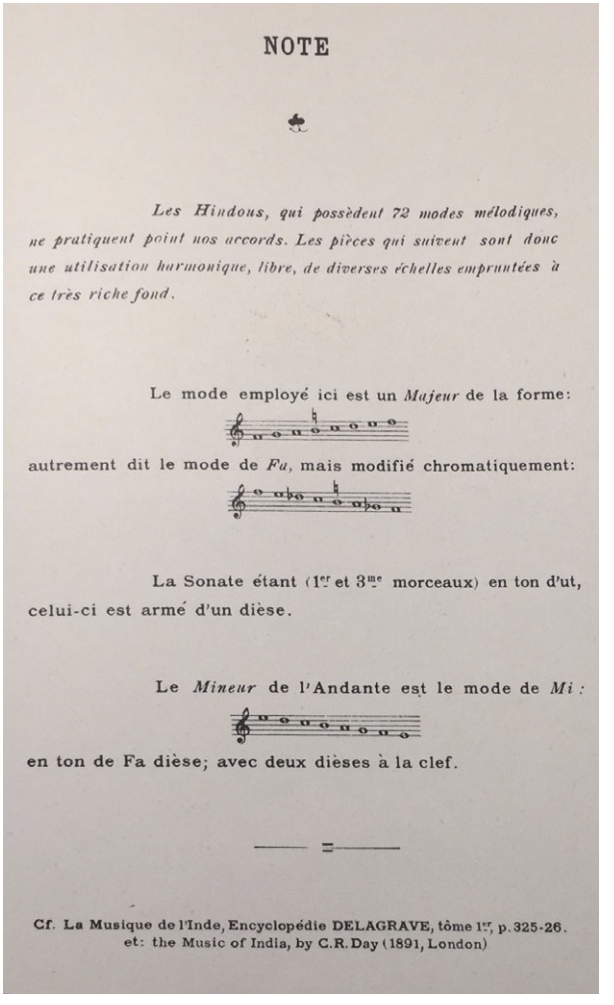
around the *melakarta*s by creating a productive tension between the 'modal' pitch collections and local tonicizations, fleeting chromaticisms, and modulations.[115]

Here there is no need for 'modal' labels — the *melakarta*s saturate Emmanuel's score, as his subtitle promises. Instead, Emmanuel offers a short lesson in a preface (Figure 7): 'The Hindus, who possess seventy-two melodic modes, do not practise anything like our chords. The movements which follow thus make free harmonic use of various scales borrowed from this very rich source.'[116] He then printed in staff notation the scales he used, defining them not by Indian nomenclature but in comparison to the familiar major, with adjusted scale degrees — a simple concession to his anticipated readers, perhaps, but by the same token, an assimilation of these 'modes' to the formal 'language' of European tonal practice. At the bottom of the page, Emmanuel dutifully cites Lavignac's *Encyclopédie*, alongside Day's volume.

Yet, as with Roussel, paratexts are performative; and beneath Emmanuel's Indian modalism lurked more performance anxiety. Here, Emmanuel's ambivalence tapped into an identity crisis between his scholarly background and artistic ambitions that

[115] For a fuller analysis of the sonatina, see Eleanor Carlson, 'Maurice Emmanuel and the Six Sonatines for Piano' (unpublished doctoral dissertation, Boston University, 1974), pp. 64–78; however, analysis in terms of *melakarta*s raises occasional ambiguities depending on whether one interprets the 'modes' in relation to a fixed 'tonic', C (as they are given by Grosset), or transposed in relation to a local key area.

[116] Maurice Emmanuel, *Sonatine IV sur des modes hindous* (Durand, 1920), 'Note'; 'Les Hindous, qui possèdent 72 modes mélodiques, ne pratiquent point nos accords. Les pièces qui suivent sont donc une utilisation harmonique, libre, de diverses échelles empruntées à ce très riche fond.'



NOTE

Les Hindous, qui possèdent 72 modes mélodiques, ne pratiquent point nos accords. Les pièces qui suivent sont donc une utilisation harmonique, libre, de diverses échelles empruntées à ce très riche fond.

Le mode employé ici est un *Majeur* de la forme:

autrement dit le mode de *Fa*, mais modifié chromatiquement:

La Sonate étant (1er et 3me morceaux) en ton d'ut, celui-ci est armé d'un dièse.

Le *Mineur* de l'Andante est le mode de *Mi*:

en ton de Fa dièse; avec deux dièses à la clef.

Cf. La Musique de l'Inde, Encyclopédie DELAGRAVE, tôme 1er, p. 325-26.
et: the Music of India, by C.R. Day (1891, London)

Figure 7. Emmanuel, preface to *Sonatine IV sur des modes hindous* (Durand & Cie, 1923).

beleaguered him throughout his career.[117] He exhibited these feelings in letters to Charles Koechlin over the 1920s: 'You can imagine my own horror, and how they overwhelm me with shame, in treating me as a musicologist and professor! […] I am a musician, forced to be a professor, but for whom history is a reservoir of beautiful and living works, not an old drawer full of obsolete objects!'[118] Two years later: 'I've made it to sixty, and all I have to show for it is this label of "savant" that follows me everywhere; musicologist; scholar;

[117] For two illuminating discussions of Emmanuel's conflicted identity between 'scholar' and 'artist', see Christophe Corbier's introduction to Maurice Emmanuel, *Lettres choisies: 1880–1938*, ed. by Christophe Corbier (Vrin, 2017), pp. 26–36; and Dorf, *Performing Antiquity*, ch. 4.

[118] Emmanuel, *Lettres choisies*, p. 357; 'Vous devinez l'horreur que j'en ai moi-même, et de quelle disgrâce on m'accable en me traitant de musicologue et de professeur! […] Je suis un musicien obligé de professer, mais pour qui l'histoire est un répertoire d'oeuvres belles et vivantes, et non un vieux tiroir plein d'objets désuets!'

Hellenist etc.'[119] This frustration motivated Emmanuel's paratextual utterance: in another candid letter to Koechlin from the mid-1930s, Emmanuel referred to his 'Sonatina IV in chromatic hypolydisti; but to avoid seeming like an ossified scholar, I dressed it up with the label, 'Hindu modes'; to be sure, the scale is one of the 72 Hindu (theoretical) modes.'[120] So it transpires that Emmanuel was leveraging 'Indian modes' in his own performance of vocation. If his beloved Grecian modes were perceived as fusty, Emmanuel repackaged them as something fresh, playing upon India's liminality in the French imaginary between 'past' and 'other'. Having previously demonstrated India's classicism through academic analysis, Emmanuel exploited an exoticist valence to garb his affinity for ancient history in something rather more novel; in other words, he performed exoticism.

The melakarta*s go to church*

The years following *Padmâvatî* and the *Sonatine* saw a clear spread of *melakarta* modalism in French modernist music. Roussel, for one, would implement them again in a smattering of works, of which only 'Krishna', from *Joueurs de flûte*, op. 27 (1924), is programmatically marked as 'Indian'.[121] But the most enthusiastic adoption of the *melakarta*s came from a sphere which has been largely (if unduly) peripheral to narratives of modernist composition: the centuries-old French tradition of organ improvisation. Marcel Dupré (1886–1971) published his *Traité d'improvisation à l'orgue* in 1925, the year before he was appointed organ professor at the Conservatoire. In the treatise, Dupré proposed using the *melakarta*s as source matter for the elaborate improvisations central to the French Catholic liturgy.[122] The 'modes' are discussed in the chapter on 'Theme', the starting point for the type of rigorously structured improvisations Dupré taught. Improvisers, he explained, must either select an existing theme, or devise a theme of their own; if the latter, the improviser benefits from familiarity with various 'modes' — the 'sources of melody'.[123] Dupré classifies the scales in 'as natural an order as possible, so that they are easy to remember': beginning with major and minor, he successively incorporates the ancient Greek diatonic modes, plainchant modes, and finally a range of what he called 'exotic' modes, under which the *melakarta*s are grouped.[124]

Dupré's classification of the Indian 'modes' recasts their significance from reconstituted artefacts of music history to germs of creative potential. Unlike the

[119] Ibid., p. 389; 'Et j'ai atteint la soixantaine, avec pour toute réclame, mon étiquette de "savant" dans le dos; musicologue; érudit; helléniste etc.'
[120] Ibid., p. 533; 'Sonatine IV en hypolydisti chromatique; mais pour ne point paraître un érudit en os, je l'ai affublée de l'étiquette "modes hindous"; en effet cette échelle est l'un des 72 modes hindous, théoriques.'
[121] Other instances include *La Naissance de la Lyre* (his Grecian follow-up to *Padmâvatî* in collaboration with Théodore Reinach, composed in 1922–23, featuring a *melakarta* in an extended harp passage); *Sonata No. 2* for violin and piano (op. 24, 1924); and 'Réponse d'une épouse sage' from *Deux poèmes chinois* (op. 35, 1927), a superposition of orientalisms.
[122] Dupré does not acknowledge, if he is aware, that the *melakarta*s themselves are a theoretical abstraction from another improvisatory tradition in the Indian context based on *rāga*s.
[123] Marcel Dupré, *Traité d'improvisation à l'orgue* (Leduc, 1925), p. 28; 'sources de la Mélodie'.
[124] Ibid., p. 28; 'les classant dans un ordre aussi naturel que possible, et facile à retenir.'

historiographical tendency (exemplified by Fétis, Woollett, Grosset, Emmanuel, and others) to situate Indian music toward a teleological inception marked as 'ancient' and 'classical', in Dupré's volume 'Hindu' music — 'the most interesting and most complete of exotic musics'[125] — arrived toward the end of the 'modal' sequence, as an advanced technique of an organist's training. Dupré prized 'Hindu modes' neither for dramatic associations they evoked (as deployed by Pierné, for example), nor for the 'ethnic' essence they embodied (as embraced by Roussel and Emmanuel), but rather for their 'absolute' musical qualities. Although Dupré categorizes the Indian 'modes' as 'exotic', his analysis reflects his understanding of them as a combinatorial system built on tetrachordal structures. After this demonstration, Dupré lists various 'Gypsy' and 'Arabian' 'modes' which are, he claims, 'derived from Hindu modes', followed by pentatonic ('incomplete') 'modes'; in the terms of Segalen's binary, his representation of India is more aligned with 'exotic otherness' than with 'classical past'. (His brazen claim of derivation did not go unchallenged, however: Emmanuel, otherwise complimentary of Dupré's *Traité*, corrected his colleague by sending him a clipping of 'Le Corps de l'Harmonie'.[126]) But the greater significance of Dupré's intervention is in encouraging organists, whatever their notions of the scales' origins, to integrate the *melakarta*s formally in contexts of instrumental music where they would be heard without any Indianist association.

Charles Tournemire (1870–1939) followed with his own organ improvisation treatise in 1936. Like Dupré, Tournemire addressed the *melakarta*s only at the end of the treatise, as an advanced technique in the modern organist's toolkit. Unlike Dupré, Tournemire did not break the modes down into their generative structures; instead, he (somewhat idiosyncratically) hand-selected twenty-eight of the seventy-two for inclusion (Figure 8).[127] Extending the impulse to harness the *melakarta*s' creative potential, Tournemire suggested integrating the Indian scales into 'classical' organ forms, alluding to how improvisational practices bleed into compositional practices through implicit reference to his own work: 'Before concluding all these reflections on the Art of Organ improvisation, we shall note here some ancient "scales" upon which an ingenious improviser may rely upon to build at once, as they wish: Chorales, Fantasies, Sonatas, etc.'[128]

[125] Ibid., p. 31; 'La plus intéressante et la plus complète des Musiques exotiques est la Musique Hindoue'.

[126] Emmanuel, *Lettres choisies*, p. 414: 'Je vous enverrai une courte étude faite il y a quelques années (à la demande des *Études grecques*) sur les modes hindous comparés aux modes helléniques.'

[127] Tournemire's selection of *melakarta*s appears unsystematic and a bit sloppy: of the twenty-eight modes, two pairs are duplicated. Judging by his manuscripts, these duplications were introduced during two unscrupulous retranscriptions — first from Grosset's table into his notes, then from his notes into the manuscript for the *Précis* (F-Pn, RES VM DOS-227).

[128] Charles Tournemire, *Précis d'exécution, de registration et d'improvisation à l'orgue* (Max Eschig, 1936), p. 116: 'Avant que de clore toutes ces réflexions sur l'Art de l'improvisation à l'Orgue, nous allons consigner ici quelques 'échelles' antiques sur lesquelles l'improvisateur ingénieux pourra s'appuyer pour édifier, au gré de sa fantaisie, séance tenante: Chorals, Fantaisies, Sonates, etc.' On the relationship between improvisation and composition in the French organ tradition, with particular reference to Tournemire, see David Maw, 'Improvisation as Composition: The Recorded Organ Improvisations of Vierne and Tournemire', in *Distributed Creativity: Collaboration and Improvisation in Contemporary Music*, ed. by Eric F. Clarke and Mark Doffman (Oxford University Press, 2017), pp. 239–66.

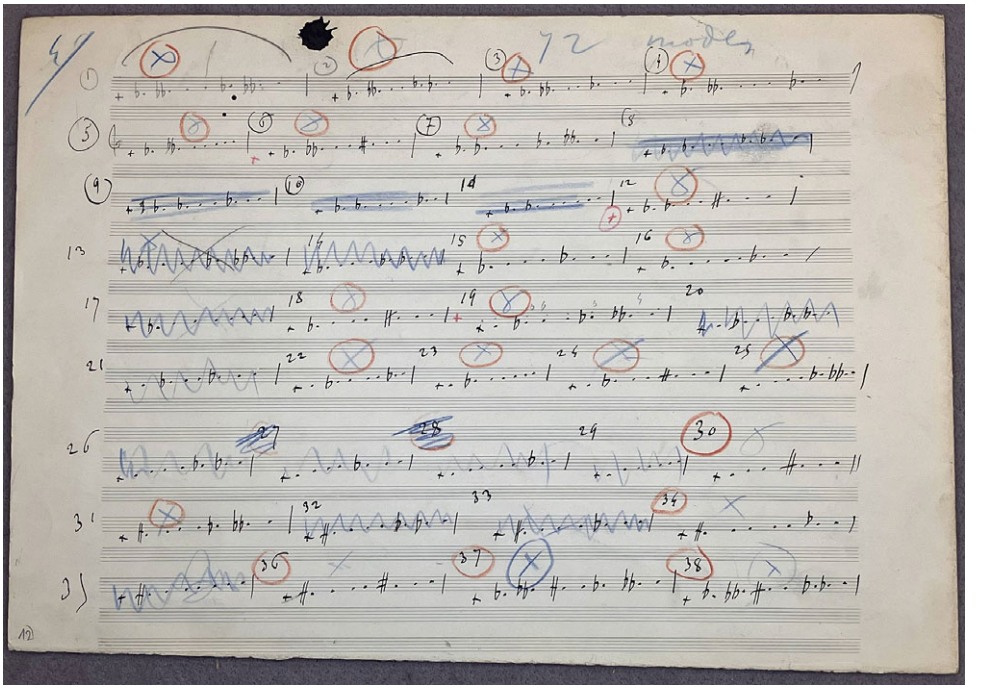


Figure 8. Tournemire, manuscript notes for *Précis d'exécution de registration et d'improvisation à l'orgue*, 1930s (Paris, Bibliothèque nationale de France, Ms. 26552) (author's photograph).

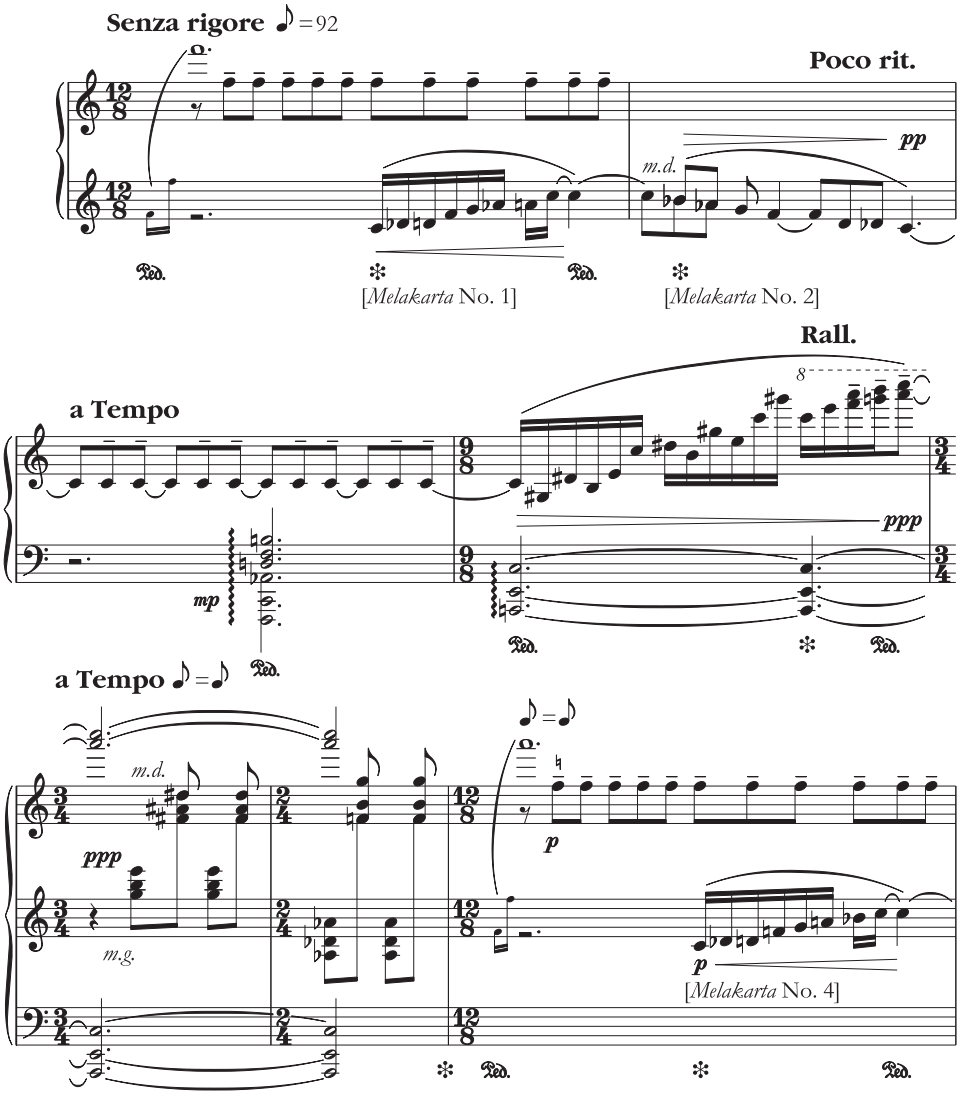
Tournemire's compositions from the surrounding years demonstrate precisely what he prescribed. He began weaving *melakarta*s into his monumental cycles for organ and piano, such as *L'Orgue mystique*, opp. 55–57 (1927–32), *12 Préludes-poèmes*, op. 58 (1931–32), and *7 Chorals-poèmes*, op. 67 (1935), each of which bears explicit Catholic themes unrelated to India.[129] Here, as in Dupré, the 'modes' served an artistically progressive agenda, often to enrich the harmonization and thematic development of plainchant borrowings, divorced from geographic emplacement or programme: describing his *Préludes-poèmes*, Tournemire aligned 'new sonorities and the use of numerous Hindu modes', concluding, 'This is piano music on a grand scale.'[130] Rather than adhering to single scales for extended periods like Emmanuel, Tournemire used them more changeably, as exemplified in the opening of his first *prélude-poème* (Example 4).

By shifting the construal of Indian 'modes' in their treatises from essential 'Indo-European patrimony' to a progressive alternative to tonality, Dupré and Tournemire

[129] For analyses of Tournemire's use of *melakarta*s in these works, see Timothy Tikker, 'La *Symphonie-Choral* pour orgue de Charles Tournemire: Vers une explication de sa forme', *L'Orgue*, 278–279 (2007), pp. 89–100; and Mengdi Li, 'Douze Préludes-Poèmes, Op. 58 by Charles Tournemire: A Stylistic Analysis' (unpublished doctoral dissertation, University of South Carolina, 2019), ch. 4. The *Préludes-poèmes* were published only in 1970, without their theological titles; these can be found attached to the score manuscript (F-Pn, MS-18945).

[130] Quoted in Pascal Ianco, *Charles Tournemire, ou, le mythe de Tristan* (Geneva: Papillon, 2001), 74; 'des sonorités nouvelles, l'emploi de nombreux modes hindous…C'est du grand piano.'

Example 4. Tournemire, *Prélude-poème* no. 1, bars 1–7.



(perhaps unwittingly) situated them chronologically closer to where they were 'invented' as devices: that is, not at the origin of an 'Indo-European' music history threading from ancient India to modern Europe, but rather as elements of a 'modal' lexicon which only became reified as such in nineteenth- and twentieth-century France. In other words, they represented 'Hindu modes' not as an early stage of musical 'evolution', but rather a neoteric element of French musical modernism. By valorizing the *melakarta*s not as immanent 'racial' heritage but for their formal potential, they detached the products of a philologically mediated music historiography from the agenda of filiations and origins, reconfiguring those products for avant-garde, 'purely musical' ends. Yet the very conditions affording this rupture emerged from quasi-philological analysis itself, by which music was reverse-engineered into putatively generative 'structures'. The abstraction and assimilation of the *melakarta*s are thus outcomes of philology's successful mediation: rather than melodies, borrowed verbatim in the manner of a set-piece, 'modes', decontextualized, disassembled, and reconstituted through stages of philological processing, infiltrate from within, embodying existing forms and structures.

If the Catholic liturgy seems an unlikely landing site for the *melakarta*s, it helps to recall that the French organ tradition was central to the emergence of modalist discourses in the nineteenth century. Niedermeyer and d'Ortigue's method of harmonizing plainchant using only the notes of the chant mode was the inspiration for Bourgault-Ducoudray's 'modal' folksong harmonizations in the 1870s, and resonates in Dupré's advice that students might experiment with the 'assimilation of a number of these modes […] and then try to apply their natural harmony to them afterward, using only the notes of the mode.'[131] (Recall, too, Fétis's conjecture of a common principle linking Indian 'modes' with 'the plainchant tonality of our churches'.[132]) One could argue that upon entering the organ loft, the *melakarta*s' assimilation to French modalism came full circle.

'Modal' infinitudes — and limits

In his 1928 article 'La Polymodie', Maurice Emmanuel articulated his vision for music of infinite 'modal' variety — a sort of manifesto for the 'république modale' he had evoked nearly two decades earlier. Here, Emmanuel (notwithstanding his classical erudition) pits himself against two characteristics of the emergent 'neoclassicism'. First, in coining the term 'polymodie', he set up a foil to 'invasive polytonality', unsubtly targeting Darius Milhaud who had touted (in the same journal five years prior) polytonality's potential to enrich musical expression.[133] For Emmanuel, polytonality only multiplied (literally) the entrenched 'tyranny' of the major scale. (The terminological similarity is potentially misleading, for Emmanuel defined 'polymodie' not as the superposition of multiple 'modes', but rather the free use of varied scales in

[131] Dupré, *Traité*, p. 31; 'l'assimilation d'un certain nombre de ces Modes […] essayer ensuite de leur appliquer leur harmonie naturelle, sans sortir des notes du Mode.'

[132] See above, note 28.

[133] Maurice Emmanuel, 'La Polymodie', *La Revue musicale*, 1928, pp. 197–213 (p. 197); 'Polytonie envahissante'. See Darius Milhaud, 'Polytonalité et atonalité', *La Revue musicale*, 4 (1923), pp. 29–44.

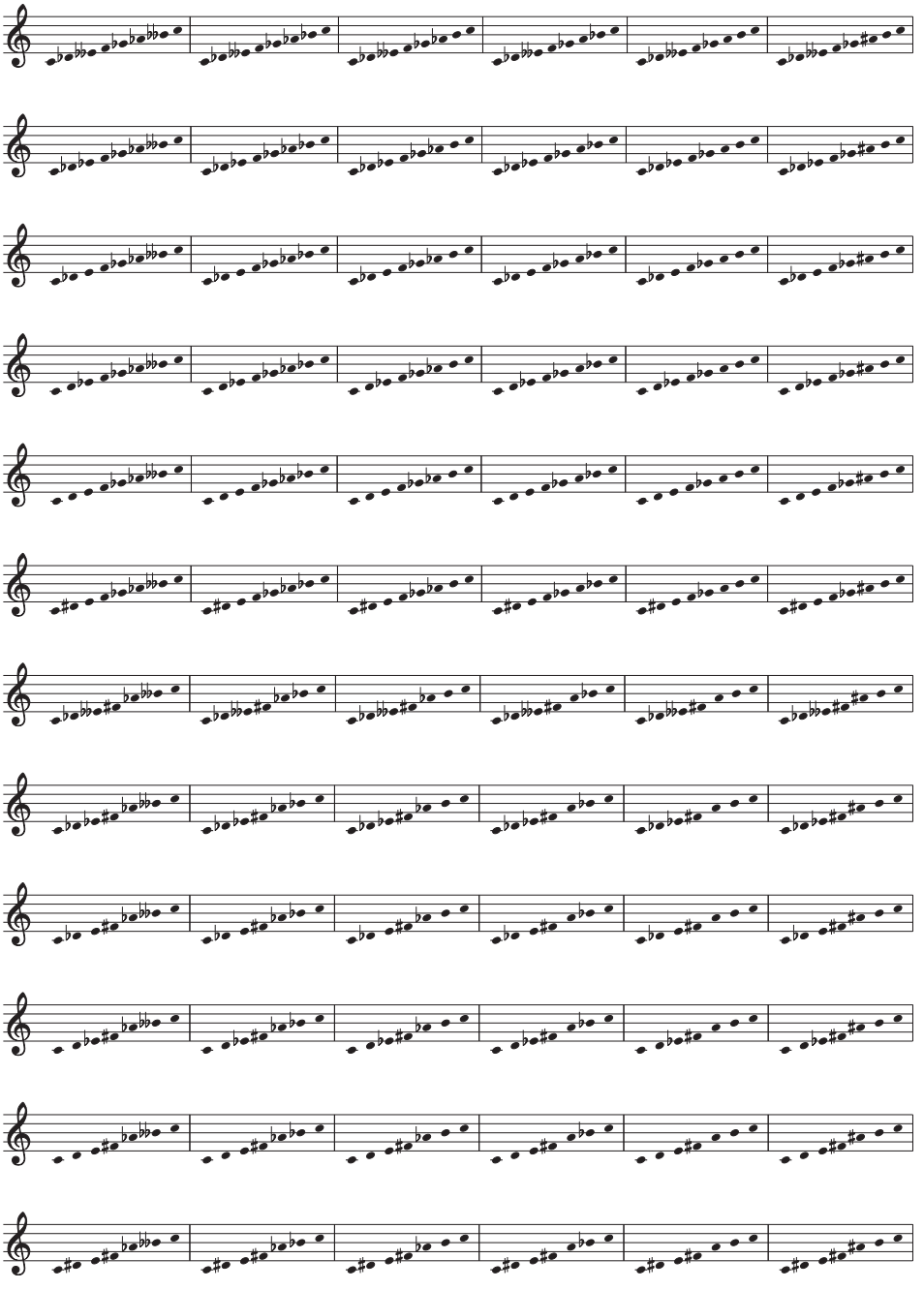
concentrated succession, so that the 'characteristics of the mode are perceived and savoured.'[134]) Second, Emmanuel repudiated 'archaism' and 'pastiche' — eyeing the 'Retour à Bach' — instead comparing the appeal of 'polymodie' to how 'a painter may use the colours of their palette'.[135] The Indo-Europeanist essentialism of 'Le Corps de l'Harmonie' is attenuated in 'La Polymodie' in favour of a broader global perspective, as Emmanuel referenced the 'protodiatonic', 'pentaphonic scales' of East Asia, indigenous North and South America, and the British Isles.[136] With this gesture, Emmanuel tapped into another tenacious discourse of modalist historiography, which construed pentatonicism (as testified by European travellers in China and Scotland since the eighteenth century) as an early 'precursor' to heptatonic modality.[137] Nevertheless, the *melakarta*s remained pivotal in Emmanuel's vision of 'modal' fecundity in modern French music. Now, he not only recapitulated the familiar construction of the seventy-two scales, but added seventy-two more of his own: first, by freezing the fourth scale-degree and diminishing the fifth (making thirty-six); and second, by augmenting the fourth and diminishing the fifth simultaneously so that they coincide on the same pitch (making thirty-six hexatonic scales) — thereby incorporating various 'symmetrical' scales, including the wholetone scale, into this generative system (Example 5).[138]

One could be forgiven for objecting that Emmanuel's advocacy for the free use of 144 distinct 'modes' seems a roundabout way to approach chromaticism in all but name. Emmanuel forestalls this objection by distinguishing between a dodecaphonic chromaticism — a supersaturation of the shopworn major scale (concomitant with the prolongation of tonal structures) unworthy of the Greek term — and a 'chromaticism' comprising the ad hoc use of heptachordal 'modes' structured around the framework of $\widehat{1}$–$\widehat{4}$–$\widehat{5}$, that is, the 'Corps de l'Harmonie' derived from comparison of the *melakarta*s with Greek modes.[139]

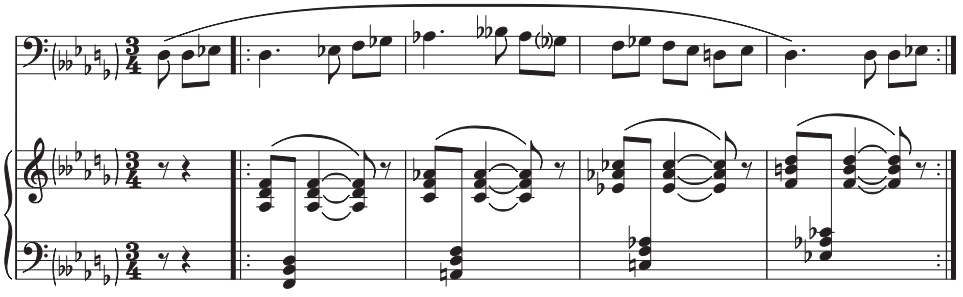
Emmanuel thus extended musical 'modality' doubly: to encompass a vast range of scale-patterns born of the generative combinatorics of the *melakarta*s and their derivatives, and to accommodate the free interpolation of these scale-patterns among and alongside one another. This radically expanded modalism was plumbed throughout the 1920s and 1930s by Charles Koechlin (fellow acolyte of Bourgault-Ducoudray); Jean Langlais (student of Dupré and Tournemire); Jehan Alain (student of Dupré and Emmanuel); Marcelle Soulage (student of Emmanuel and Boulanger); and later on,

[134] Emmanuel, 'La Polymodie', p. 211; 'pour que les caractères du mode soient perçus et goûtés'.
[135] Ibid., p. 203; 'l'usage que le peintre peut faire des couleurs de sa palette'.
[136] Ibid., pp. 205–06.
[137] See Matthew Gelbart, *The Invention of 'Folk Music' and 'Art Music': Emerging Categories from Ossian to Wagner* (Cambridge University Press, 2007), ch. 4.
[138] Emmanuel, 'La Polymodie', pp. 203–04. Emmanuel was not alone. Citing the 'principles exposed by the Karnatic modes' in Grosset's chapter, chemist and pianist Georges Urbain proposed in 1924 a classification of 'all possible melodic modes', arriving at a total of 461 (*Le Tombeau d'Aristoxène. Essai sur la musique* (Octave Doin, 1924), pp. 22–31, 65–74). In 1929, poet-mathematician Pius Servien proposed his own system of 462 heptatonic modes (*Introduction à une connaissance scientifique des faits musicaux* (Blanchard, 1929), pp. 46–47).
[139] Emmanuel, 'La Polymodie', pp. 204–05.

Example 5. Table of scales, adapted from Emmanuel, 'La Polymodie', pp. 203–04.



Example 6. Alain, 'Sur le mode Ré, Mi♭, Fa, Sol♭, La♭, Si♭♭, Do', JA 42.



André Jolivet (proud owner of a Lavignac encyclopaedia);[140] to name only a few. Not all these composers mention the *melakarta*s in their writings; yet their broad and fluid conception of 'modality' — illustrated with tongue in cheek by Alain's prosaically titled miniature, 'Sur le mode: Ré, Mi♭, Fa, Sol♭, La♭, Si♭♭, Do' (Example 6) — manifests this broadened modalist discourse. The *melakarta*s' dissolution into formalist techniques and discourses shows the thoroughness of their adaptation and assimilation into practices of French modernism.

As if to illustrate just how generalized the idea of 'Hindu modes' had become, the *melakarta*s found their most vocal promoter in a composer who, as far as I can discern, never in fact employed them in his compositions: Olivier Messiaen. The history of the *melakarta*s offers insight into the synthetic 'modes of limited transposition' that Messiaen devised and (following d'Ortigue, Bourgault-Ducoudray, Emmanuel, and others) deployed both melodically and harmonically. This claim requires clarification, however, because from an analytical perspective, Messiaen's modes are distinct from the *melakarta*s in pitch content and structure. They are not heptatonic, for one; more precisely, instead of mobile scale degrees around a fixed pillar of $\widehat{1}$–$\widehat{4}$–$\widehat{5}$, Messiaen's modes consist of symmetrical rotations of intervallic patterns. Accordingly, musicologists have customarily viewed the 'modes of limited transposition' as extrapolations of the whole-tone and octatonic scales, which represent the first two modes of Messiaen's collection. The long history of these two symmetrical scale-types in French and Russian composition has received considerable attention, and provides a clear genealogy of Messiaen's practice which was embraced by Messiaen himself.[141] If these precedents are incontestable, however, I would suggest that the *melakarta*s played a role in motivating Messiaen to

[140] Jolivet had experimented with various modified Greek and synthetic modes throughout the 1930s; he claimed to have realized only after the fact that 'modes' he employed in his *Piano Concerto* (1950) corresponded to *melakarta*s. See Lucie Kayas, *André Jolivet* (Fayard, 2005), pp. 391–92.

[141] One narrative is told in Richard Taruskin, *Stravinsky and the Russian Traditions: A Biography of the Works through Mavra*, 2 vols (University of California Press, 1996), especially ch. 4. Messiaen effectively substantiates the Russian-centric narrative by citing octatonic examples from Rimsky-Korsakov and Scriabin in *Technique de mon langage musical* (p. 52). Another, French-centred, history is told by Sylvia Kahan, who suggests that Edmond de Polignac's independent formulation of octatonicism was perhaps motivated by Bourgault-Ducoudray (*In Search of New Scales: Prince Edmond de Polignac, Octatonic Explorer* (University of Rochester Press, 2009), pp. 42–45).

elaborate a systematic, comprehensive, and generative 'modal' system. Their impact here came not in the form of individual heptachordal modal borrowings, but via the theoretical edifice of an exhaustive combinatorial scheme, by which the quasi-philological 'structural' analysis of modes was adapted into a generative procedure of modal synthesis. (After all, whether by way of his organ professor, Dupré, or his history professor, Emmanuel, Messiaen likely first encountered the *melakarta*s not as readymade objects, but as combinatorial tetrachords from which the potential modes could be realized.) The completist approach Messiaen brought to the theorization of his own modes cannot but bring to mind that of the *melakarta*s: the distillation of the whole-tone and octatonic scales to a structural principle, in order to develop an entire modal vocabulary on the basis of that principle, recalls Emmanuel's invention of novel modes derived from his own reverse-engineered analysis of the *melakarta*s.[142] And, like Emmanuel's synthetic modes — and Veṅkaṭamakhin's *melakarta*s for that matter — Messiaen's modes were devised as theory, only partially reflecting practice and generating a significant 'supplement'.[143]

Messiaen's preserved sketches offer scant evidence of precisely how he honed his modes while at the Conservatoire — a remarkable achievement, given how fluently he deployed them in student works like *Préludes* (1928–29). However, if the developmental links between the *melakarta*s and Messiaen's modal system remain open to interpretation, what is clear is that throughout the 1930s, Messiaen propagated the epithet of 'Hindu modes' with respect to others' music and even his own. This is especially evident in his music criticism between 1936 and 1939: ten of Messiaen's thirty-eight journalistic pieces collated by Stephen Broad reference Indian music in some way (without suggesting that he ever heard any), and he commended 'Hindu modes' in the music of Roussel, Tournemire, Langlais, Georges Migot, and Ivan Wyschnegradsky. It is not always clear that what Messiaen interprets as 'Hindu' was intended as such by the composer, although this very ambiguity reflects the *melakarta*s' assimilation to generalized 'modalité libre'. Most dubiously, Messiaen ascribed 'modal spices of Greek or Indian origin' to his own composition teacher, Dukas, in the 'Chanson des cinq filles d'Orlamonde' from *Ariane et Barbe-Bleue* (1906) (in fact a folklike theme based on Dukas's manipulation of plainchant).[144] By hearing the passage as he does, Messiaen perpetuated, perhaps unwittingly, a lineage of hearing Dukas's opera (and especially the 'Orlamonde' theme) as essentially 'Aryan'.[145]

[142] For a recent and cogent reading of Messiaen's inheritance from Emmanuel, with reference to the latter's Indo-Europeanism, see Panos Vlagopoulos, 'Le Bras de Vénus et le corps d'Apollon: généalogie de la morale et de l'idéologie musicale de Maurice Emmanuel', in *L'Enseignement de Maurice Emmanuel: Musique, histoire, éducation*, ed. by Christophe Corbier and Sylvie Douche, (Delatour, 2020), pp. 131–43.

[143] Even having codified his system, Messiaen's use of the 'higher' modes (beyond 2 and 3) remained comparatively rare.

[144] Quoted in Stephen Broad, *Olivier Messiaen: Journalism 1935–1939* (Ashgate, 2012), p. 81.

[145] On the Aryanist reception of *Ariane*, complicated by Dukas's Jewish identity, see Anya Suschitzky, '*Ariane et Barbe-Bleue*: Dukas, the Light and the Well', *Cambridge Opera Journal*, 9.2 (1997), pp. 133–61 (pp. 149–52), doi:10.1017/S0954586700005231. Dukas was keenly interested in Indian religion and mythology, and had begun an opera set in India (*L'Arbre de science*) for which the score is now lost.

Elsewhere, Messiaen leverages Indian music against 'lazy' Parisian audiences: 'if they heard pure plainchant, or an authentic Hindu rāga, would they hiss?' In another article, he taunted, 'Is our contemporary music, incomparable in the domains of counterpoint, timbres and instrumentations, to lag behind the rhythms and modes of the ancient songs of Greece or India?'[146] Thus the frequent 'Hindu modes' in Messiaen's journalism were not only descriptive of mounting predilections, but also an attempt to manufacture tastes for 'modality' within his milieu.

Furthermore, despite the note-for-note incommensurability between Messiaen's modes and the *melakarta*s, critics habitually mentioned 'Hindu modes' in reference to Messiaen's own compositions, especially in the years before the 'modes of limited transposition' were widely published. In a 1938 review of Messiaen's *Poèmes pour Mi*, Paul Bertrand described the work's 'great stylistic freedom: no bar lines, a modal language oscillating between plainchant and Hindu music.'[147] Later that year, Messiaen's colleague Daniel-Lesur wrote positively of Messiaen's theological inspirations 'curiously allied with a musical language based on Hindu scales.'[148] In a glowing 1941 review of the Paris premiere of the *Quatuor pour la fin du Temps*, Serge Moreux described the work's 'melodic and metrical language which is both original and *organized*, born of meditations on ancient Greek metre and Hindu modality.'[149] Even in 1960, Jacques Chailley referred somewhat oxymoronically to 'Messiaen's Hindu scales'.[150]

Messiaen, a savvy self-promoter, endorsed such associations early on, perhaps perceiving (as Emmanuel had) the positive connotations 'Hindu modes' continued to enjoy. In a programme note accompanying the premiere of his organ cycle, *La Nativité du Seigneur* (1936), Messiaen explained that the 'form' of the cornet solo in 'Le Verbe' — which adheres to an octatonic collection (Messiaen's mode 2^2) — was 'related to Hindu rāgas, to sequences and graduals of plain-chant, and to ornamented chorales of J. S. Bach'.[151] When preparing his preface for the published score, Messiaen contemplated underscoring the originality of his modes — 'Say perhaps in preface: these modes [of limited transposition] are unrelated to the great modal systems already known (Greek, plainchant, China, India)' — before crossing it all out in his own bout of paratextual anxiety, thereby allowing the association with India to stand.[152] This association served Messiaen well insofar as it remained positive in press criticism: for instance, the choice adjective

[146] Quoted in Broad, *Olivier Messiaen*, pp. 130 and 123.
[147] Quoted in Peter Hill and Nigel Simeone, *Messiaen* (Yale University Press, 2005), p. 77.
[148] Daniel-Lesur, 'Du Fond et de la Forme', *La Revue musicale*, 186 (September–November 1938), pp. 126–30 (p. 130).
[149] Quoted in Hill and Simeone, *Messiaen*, pp. 112–13 (emphasis original).
[150] Jacques Chailley, *L'Imbroglio des modes* (Leduc, 1960), p. 87.
[151] Quoted in Susan Landale, 'Olivier Messiaen: étude de son langage musical à travers l'œuvre d'orgue', *L'Orgue*, 208 (1988), pp. 1–25 (p. 18): 'la forme s'apparente aux râgas indous [sic], aux séquences et graduels du plain-chant, aux chorals ornés de J.-S. Bach'. Years later, Messiaen doubled down on the assertion that the melody is related to 'rāgas' by its 'character' (*Technique de mon langage musical*, I, p. 59).
[152] F-Pn, RES VMA MS-1954 (1-2), 4. Messiaen did make a similar claim the following decade in *Technique de mon langage musical*, p. 52.

TABLE 1
MODAL TELEOLOGY ACCORDING TO MESSIAEN, *TRAITÉ DE RYTHME, DE COULEUR ET D'ORNITHOLOGIE*, VII, CHAPTER 1, 'MODES'

Chinese Modes [pentatonic]
Hindu Modes [including the *melakarta*s]
Greek Modes and Plainchant Modes
Major Tonality [including analysis of Beethoven's Fifth Symphony]
The Dodecaphonic Series
Modes of Limited Transposition [including Debussy and the whole–tone scale]

'organized' in Moreux's review of the *Quatuor* — recalling Malherbe's review of *Padmâvatî* — portrays Indian 'modes' in contradistinction to an archetypically unbridled 'exoticism', echoing Apollonian notions of classical 'order' long cultivated by French musicians and broadly promulgated in modalist discourse.[153]

In time, Messiaen would also incorporate the *melakarta*s into his pedagogical curriculum, as reflected by their inclusion at multiple junctures in his *Traité de rythme, de couleur, et d'ornithologie*.[154] In Volume 1, he began his chapter on 'Hindu Rhythms' with the *melakarta*s, placing them anachronistically before the *deśītāla*s.[155] And in Volume 7, he charted his own quasi-natural history of scales, misleadingly (Eurocentrically) placing the *melakarta*s along a teleology between pentatonic 'Chinese modes' and ancient Greek modes, at the opposite end from his own modal system (Table 1). By resituating the *melakarta*s near the conceptual root of all manner of modal, tonal, and atonal history, however, he concealed the much shorter circuit — not a natural history on an evolutionary scale but a recent history of human interactions, imperial networks, and epistemological frictions — by which Indian *śāstra* shaped French modernism in the twentieth century.

Conclusion: An Indo-European Modality?

The case of Messiaen brings us, chronologically, to the early 1940s — by which point another trajectory of Indo-Europeanism had taken its most extreme turn: a death spiral

[153] From the late 1930s, Messiaen borrowed two other elements from Grosset's article — *jāti*s (defined as melodic contours), and *deśītāla*s (rhythmical patterns) — both of which Grosset transcribed from the thirteenth-century *Saṅgītaratnākara.* Although these two categories of borrowing sprawl beyond this article's scope, they may usefully be revisited amid shared discourses and contexts of Indo-Europeanism and philology, combined with recent insights into Messiaen's 'borrowing technique'. See Yves Balmer, Thomas Lacôte, and Christopher Brent Murray, *Le Modèle et l'invention: Messiaen et la technique de l'emprunt* (Symétrie, 2017), especially pp. 354–55.

[154] Olivier Messiaen, *Traité de rythme, de couleur, et d'ornithologie (1949–1992)*, 7 vols (Leduc, 1994), I, pp. 247–49; VII, pp. 27–31. Messiaen's *Traité* was only published posthumously by Yvonne Loriod, on the basis of his designs and pedagogical materials.

[155] The use of the term 'Hindu' by Messiaen and scholars of Messiaen today reinscribes, if unwittingly, efforts since Jones to distinguish 'pure' tradition from 'foreign' Muslim influence.

from linguistic theory to racist ideology to murderous reality, nourished by social Darwinism and shepherded by the demagogues of the Nazi party to fascistic and ultimately genocidal ends. By this point, Aryanism had made another, far more visible, impact on French musical life, in the form of the explicitly antisemitic cultural agendas in Occupied Paris and Vichy, and manifested by the activities of, for example, the Groupe Collaboration.[156] (Even here, however, India remained a thematic point of reference: consider Alfred Bachelet's *Sûryâ* — a bombastic setting of Leconte de Lisle's 'Vedic hymn' — which fed transparently into the Vichy regime's Aryanist propaganda at its 1942 premiere.[157]) Yet if such activities may be dispatched as flagrant chauvinism, Indo-Europeanist philology's embeddedness in the discourse and logic of modalism during the interwar period poses a trickier conundrum for musicological parsing: at what point (if any) may synthetic musical scales shed the 'baggage' of ideologies that contributed to or motivated their construction?[158]

In their magisterial introduction to *Western Music and Its Others*, Georgina Born and David Hesmondhalgh ask:

> is there some special way that, because of its lack of denotation, and compared with the visual and literary arts, music hides the traces of its appropriations, hybridities, and representations, so that they come over time to be *naturalized and aestheticized?*

Gesturing toward an answer, the authors suggest:

> Rather than the traces of musical appropriation simply being erased in time and in reception, they become, as with all musical elements, the object of changing discursive projections and interpretations, reinterpretations that in turn may become productive of new musical possibilities.[159]

If musical forms accrue meaning through convention, they also lend themselves to interpretive flexibility and reinvention. Certainly Indian 'modality', and the *melakarta*s in particular, have harboured a superabundance of 'discursive projections' in French musi(cologi)cal contexts — whether as 'local colour' for theatrical settings; artefacts of an imagined 'Aryan' patrimony; or a systematic solution to the 'problems'

[156] For such histories, see, for example, *La Vie musicale sous Vichy*, ed. by Myriam Chimènes (Complexe, 2001); Sara Iglesias, *Musicologie et Occupation* (Maison des sciences de l'homme, 2014); Karine Le Bail, *La Musique au pas* (CNRS, 2016); Jane F. Fulcher, *Renegotiating French Identity: Musical Culture and Creativity in France during Vichy and the German Occupation* (Oxford University Press, 2018).

[157] Leslie Sprout, 'Les Commandes de Vichy, aube d'une ère nouvelle', in *La Vie musicale sous Vichy*, pp. 157–78 (pp. 173–76); and Jeffrey Mehlman, *Adventures in the French Trade: Fragments Toward a Life* (Stanford University Press, 2010), pp. 27–29. Despite the work's programmatic content, Bachelet appears not to have attempted engagement with Indian musical sources. On the place of 'India' in French Nazism, see Assayag, *L'Inde fabuleuse*, pp. 149–81.

[158] Meanwhile the stakes of the *melakarta* scheme had also risen in India, becoming a central point of contention in debates over defining a national music tradition, and by 1925, despite their limitations, the *melakarta*s had prevailed over various alternatives as the dominant system used for *rāga* classification (see Weidman, *Singing the Classical*, p. 235). Whether Indian advocates for the scheme were aware of their reception in France merits investigation.

[159] Georgina Born and David Hesmondhalgh, 'Introduction: On Difference, Representation, and Appropriation in Music', in *Western Music and Its Others*, pp. 1–58 (pp. 45–46) (emphasis original).

of chromaticism through generative 'modal' synthesis tied into discourses of musical 'Frenchness'. Yet the passivity in Born and Hesmondhalgh's formulation ('music hides …') risks masking the agents and efforts behind 'naturalization and aestheticization'. In the case of the *melakarta*s in French music, these occurred through active, long-term processes of formalist abstraction and comparativist assimilation fuelled at points by colonialist and nationalist agendas — in other words, through philological mediation.[160]

Rather than seeking to resolve the issue of when assimilation or appropriation has taken place — philosophical and ethical questions that extend beyond the scope of this article — a more productive question with which to conclude this historical investigation might be: are there other, potentially reparative, histories that the case of the *melakarta*s and the 'république modale' might accommodate? At the risk of overburdening the *melakarta*s further, I wish to proffer one further discursive projection — or perhaps remediation. We have seen that contexts of comparative philology drove the impulse to align Indian, Greek, Roman, and French 'modal' systems (to the exclusion of many others) along an Indo-Europeanist narrative — thereby contributing to the outsized reception of the *melakarta* system in late nineteenth- and early twentieth-century French constructions of a specifically 'Hindu' music. Yet it would be facile to conclude that the rationalized abstraction of theoretical pitch systems from contexts of musical performance — and, for that matter, the abstraction and reification of verbal roots from living language that represented the epistemological breakthrough of comparative philology itself — were wholly European impositions upon immutable Indian musicological and linguistic traditions. Recent historiographers of philology have shown that the breakthroughs of nineteenth-century comparative grammar — in particular the idealization and anatomization of language that facilitated the axes of comparative analysis — were crucially indebted to Indian linguistic methods. As Thomas Trautmann has shown, it was William Jones's exposure to the scholarship of Pāṇini — who, two millennia prior to Jones's lifetime, codified an internalist analysis of Sanskrit grammar, phonology, and morphology practically unrivalled in sophistication by any European linguistic counterpart before the twentieth century — combined, as Gildas Salmon adds, with Jones's colonial mandate to implement 'Hindu law' and his own misguided efforts to assimilate Hindu culture to a Biblical framework, that afforded his formulation of an 'Indo-European' hypothesis.[161] Salmon seizes the opportunity, therefore, to reappropriate the term 'Indo-European', recasting the hyphen so as not to imply a fantasized unity of languages, cultures, or 'races', but rather a recent and relational 'genealogy' of nineteenth-century philological thought owing to a coalescence of Indian and European linguistic insights, an 'Indo-European co-production'.[162] This move — a fundamental distribution of intellectual debt and

[160] For another discussion of 'aestheticization' as an active and ideological process, see Timothy D. Taylor, *Beyond Exoticism: Western Music and the World* (Duke University Press, 2007), pp. 99–102.

[161] Trautmann, *Languages and Nations*, ch. 2; Gildas Salmon, 'Savoirs orientalistes et savoirs brahmaniques : une généalogie indo-européenne de la grammaire comparée', in *L'Idée indo-européenne*, ed. by Aramini and Macé, pp. 26–37.

[162] Salmon, 'Savoirs orientalistes', p. 32.

agency — does nothing to exculpate the perpetration of colonial or epistemic violence under the auspices of which this knowledge exchange occurred, nor does it mitigate how 'Indo-European philology' was weaponized in Europe to reinforce, by means of linguistic 'proof', longstanding anti-Jewish and anti-Muslim prejudice. On the contrary, re-embedding philology in the culture(s) of its conception helps to recuperate colonial erasures, and thereby dismantle myths of universalizing rationalism as the unique province of post-Enlightenment European science.[163]

Could we draw inspiration from Salmon's reformulation in thinking through 'Indo-European' modality in twentieth-century French music? One could not too unfairly claim on the basis of this study that the appropriation of 'Hindu modes' in interwar France, which has little to do with the pitch organization of Indian music in practice as we may so obviously observe today, was a by-product of a rationalist-imperialist imposition of European music-theoretical frameworks (say, the idea of a heptachordal diatonic pitch-collection oriented around a tonic and dominant, or the preoccupation with pitch structure as the salient parameter of cross-cultural musical comparison), grafted onto a racist fantasy of common 'Indo-European' cultural or 'ethnic' patrimony. From this perspective, scholars like Day, Grosset, and Emmanuel, trailed by the composers who engaged with their theories, wrenched the *melakarta*s from their musical contexts, aligning them to a procrustean taxonomy in order to beg the question of their relation to 'Greco-Roman modality' and ultimately modern European tonality.

But perhaps, in an era when the coherence of 'Western music' is itself being dismantled in light of longstanding transnational (including colonial) networks and flows,[164] it would be strategically productive to suggest another layer of complexity to an otherwise familiar narrative of musical transmission, interpreting it as more than yet another case of 'intercultural' representation or pastiche, by acknowledging how Indian music theorists participated in their own representation in ways that were suppressed both at the time and in subsequent European musical historiography.[165] This would include Indian theoretical contributions to discourses of rationalist abstraction: after all, it would be just as wrong to ascribe the abstraction of pitch organization from performance solely to the artifice of European theorists, for example, as it would be to

[163] For a penetrating version of this argument with respect to philology broadly, sensitive to the ways in which (especially German) Indologists reshaped the insights of comparative philology for racist ends, see Sheldon Pollock, 'Deep Orientalism? Notes on Sanskrit and Power Beyond the Raj', in *Orientalism and the Postcolonial Predicament: Perspectives on South Asia*, ed. by Carol A. Breckenridge and Peter van der Veer (University of Pennsylvania Press, 1993), pp. 76–133.

[164] See, e.g., Irving, 'Rethinking Early Modern "Western Art Music"', pp. 6–10; Martin Clayton makes a related point specifically in relation to the categories of 'Indian' and 'Western' music ('Musical Renaissance', p. 174).

[165] For similar appeals to such methodological questions of agency and cross-cultural representation in the postcolonial interpretation of music history (especially with respect to India), see Matthew Pritchard, 'Cultural Autonomy and the "Indian Exception": Debating the Aesthetics of Indian Classical Music in Early 20th-Century Calcutta'; and Sen, '*Orientalism* and Beyond'; both in *Studies on a Global History of Music: A Balzan Musicology Project*, ed. by Reinhard Strohm (Routledge, 2020), pp. 256–73 and pp. 274–307 respectively.

ascribe the idealization of Sanskrit solely to European philologists: the parametrization of music in terms of pitch organization, alongside rhythm, instrumentation, gesture, and ornament, for example, is a longstanding characteristic of musical *śāstra*.

We might go a step further, drawing again the parallel to comparative philology's history: Jones, Bopp, and their philologist successors extrapolated Pāṇini's linguistic-analytical breakthroughs — developed through emic analysis of Sanskrit, at once describing and defining a single, idealized language — to generate an axis of inter-linguistic comparison that could operate beyond Sanskrit. Similarly, Day, Grosset, and above all Emmanuel endeavoured (albeit with perhaps less competency or rigour than Jones and Bopp) to extrapolate music-analytical principles from the *melakarta* system — developed through emic analysis of Karnatic music — to facilitate comparison between a range of musical practices beyond that of Southern India (albeit a pre-determined range, since the 'Indo-European' category was already established). And it was this quasi-philological comparison of Greek scales with the *melakarta*s that drove Emmanuel to generate, legitimate, and potentiate his own generative system of modes. Like Veṅkaṭamakhin's system, the attractiveness of Emmanuel's (and indeed Messiaen's) 'modes' lay not in their accuracy as representations of existing practice, but rather in their conceptual comprehensiveness. And like their recent counterparts in South India, French modernist composers were inspired by the fecundity of musical potential generated by their 'supplement': completists in both spheres — including Mahā Vaidyanātha Śivan (1844–93), Kotīsvara Iyer (1870–1936), and Jacques Charpentier (1933–2017) — made a point of basing compositions upon all 72 *melakarta*s.

To claim straightforwardly that French musicians appropriated 'Hindu modes' reinscribes a quixotic fiction of frictionless transmission that overlooks colonial violences and racialized discourses, perpetuating the illusion that 'Hindu modes' were stable objects while also erasing Indian musicians' participation in their own representation. By expanding interpretive attention beyond musical works toward musicological epistemologies, as I have attempted to do in this article, these mediations are laid bare. But as a result of this process, it also becomes possible to imagine certain shared theoretical, and perhaps even practical, musical concerns between South Indian proponents of the *melakarta* system and French modalists: by reconceiving the *melakarta*s in both their Karnatic and French forms not as individual heptatonic scales, but as a musicological and epistemological practice, we find a common rationalistic idealism, a systematic abstraction and exhaustively generative approach to 'modal' synthesis, which could and did inform and enrich Indian and French compositional experimentalism in the twentieth century. In this sense — following Salmon's palimpsestic usage in the spirit of a more equitably relational historiography — perhaps we may speak of a transnational Indo-European modality as a force of French musical modernism.