

University of Southampton Research Repository ePrints Soton

Copyright Notice

Copyright and Moral Rights for this chapter are retained by the copyright owners. A copy can be downloaded for personal non-commercial research or study, without prior permission or charge. This chapter cannot be reproduced or quoted extensively from without first obtaining permission in writing from the copyright holder/s. the content must not be changed in any way or sold commercially in any format or medium without the formal permission of the rights holder.

When referring to this work state full bibliographic details including the author of the chapter, title of the chapter, editor of the book , title of the book, publisher, place of publication, year of publication, page numbers of the chapter

Author of the chapter	David Nicholls
Title of the chapter	Henry Cowell's "New Musical Resources"
Author of book	Henry Cowell
Title of the book	New Musical Resources
ISBN	0521499747
Publisher	Cambridge University Press
Place of publication	Cambridge, UK
Year of publication	1996
Chapter/Page numbers	153-174

Henry Cowell's "New Musical Resources"

Background

The origins of *New Musical Resources* lie in Henry Cowell's period of study at Berkeley in 1914–17. His education up to that time had been rather unorthodox; as a consequence, he was taken to Berkeley in the fall of 1914 by his father, Harry, in the hope that his remarkable musical talents might find some appropriate outlet. Charles Seeger, then chair of the Music Department at Berkeley, arranged that the seventeen-year-old Cowell should study harmony and counterpoint with E.G. Stricklen and Wallace Sabin respectively. On Thursday afternoons, Cowell and Seeger met to discuss issues in contemporary music.¹ According to Weisgall, it was also agreed that Cowell

- 1 For further details of Cowell's studies during this broad period, see (1) Michael Hicks, "Cowell's Clusters," *The Musical Quarterly*, 77/3 (fall 1993): 428–458; (2) William Lichtenwanger, "Henry Cowell: Mind over Music," *The Music of Henry Cowell: a Descriptive Catalog* (Brooklyn, NY: Institute for Studies in American Music, 1986), xiii–xxii; (3) Rita H. Mead, *Henry Cowell's New Music, 1925–1936* (Ann Arbor: UMI Research Press, 1981), 17–30; (4) Bruce Saylor, "Cowell, Henry (Dixon)," *The New Grove Dictionary of American Music*, ed. H. Wiley Hitchcock and Stanley Sadie (London: Macmillan Publishers Ltd., 1986), I: 520–529; (5) Charles Seeger, "Henry Cowell," *Magazine of Art*, 33/5 (May 1940): 288–289; 322–333; (6) Adelaide G. Tusler and Ann M. Briegleb, "Reminiscences of an American Musicologist: Charles Seeger" (Los Angeles: University of California at Los Angeles Oral History Program, 1972; unpublished), 99–104; (7) Hugo Weisgall, "The Music of Henry Cowell," *The Musical Quarterly*, 45 (1959): 484–507. Note that the dates given in some of these sources are mutually contradictory. The present text gives the most plausible sequence of events.

should "suspend free composition for a year," though there is little evidence to support this in Lichtenwanger's catalog.²

The consensus view is that Cowell started work on *New Musical Resources* in 1916, at Seeger's behest, though the exact reasons vary among sources. Lichtenwanger states that Seeger urged Cowell "to rationalize his manner of playing piano"; Godwin and Weisgall concur that Seeger encouraged Cowell to "systematize his use of musical resources" while simultaneously creating "the initial repertoire embodying his innovations."³ From approximately October 1916 to January 1917 (again, precise dates vary among sources) Cowell was in New York, where for a short time he was enrolled at the Institute of Musical Art. On his return to California, he and Seeger continued their discussions; but the study of harmony and counterpoint was replaced by that of written English, undertaken with his old Menlo Park friend and sponsor, Samuel S. Seward Jr. (who was also an English professor at Stanford). Work on *New Musical Resources* intensified, both during the time Cowell and Seward spent in army service at Camp Crane, Pennsylvania, and subsequently.⁴ Seward's importance to the project was stressed by

2 Weisgall, "The Music of Henry Cowell," 487. We may assume that the lost *Minuetto* (Nov. 1914) (L128) predated Cowell's first meeting with Seeger: see David Nicholls, *American Experimental Music, 1890-1940* (Cambridge: Cambridge University Press, 1990), 134, 225. Lichtenwanger, *The Music of Henry Cowell*, lists twenty-seven works from the remainder of 1914, thirty-one works for 1915, and twenty-eight works for 1916.

3 (1) Lichtenwanger, *The Music of Henry Cowell*, xxvii; (2) Henry Cowell, *New Musical Resources* (reprint, with a preface and notes by Joscelyn Godwin, New York: Something Else Press, Inc., 1969), xi-xii; (3) Weisgall, "The Music of Henry Cowell," 487.

4 Hicks, "Cowell's Clusters," 444-445.

Cowell in his original (unpublished) introduction to the book (see page 163) as well as in the new introduction he wrote in 1929, prior to publication. Indeed, in 1962 Seward's wife – Amy – recalled that she had spent 1919, the year of their courtship, in competition with *New Musical Resources*.⁵

It is not clear at what stage *New Musical Resources* was typed up. If Cowell was indeed referring to the book in 1922 as “The Unexplored Resources in Musical Effects,” then the typed manuscript of the first version – which is clearly headed “New Musical Resources” – must be of a later vintage.⁶ Godwin states quite categorically that it was only in 1928 that Cowell – having decided to get the book published – had the manuscript “typed out, reproduced in mauve ink on a spirit duplicator, and sent the rounds of likely publishers.”⁷ This description of the physical state of the first version is accurate (see page 157) but there is no manuscript evidence either for the date Godwin specifies, or for the response from Knopf (dated 29 January 1929) which he cites. The latter apparently offered publication, provided that Cowell found “a subsidy for 500 copies and will exempt the first thousand . . . from royalty.”⁸ However, Godwin's subsequent assertion –

5 Amy Seward's remark is quoted by Sidney Cowell in a handwritten note contained in [Folder 5] of the manuscript materials for *New Musical Resources* (see below). The note is paraphrased by Godwin on page x of his “Preface” to the 1969 reprint of the book.

6 Hicks (“Cowell's Clusters,” 445) cites one source which, as late as July 1922, gave this alternative title to the book. The title does not, however, appear in any of the manuscript materials.

7 Godwin, “Preface,” x.

8 Godwin, “Preface,” x. The letter from Knopf, and the information regarding the typing and duplication of the manuscript in 1928, were not found among those *New Musical Resources* materials which were available for consultation.

that Cowell immediately started contacting potential purchasers – is supported by a number of letters written around February 1929. By 7 November, the book (now much revised, as detailed on pages 162–169) was at the proof stage.

New Musical Resources was published by Alfred A. Knopf, Inc., early in 1930 and – according to Godwin – reprinted shortly afterwards. The book was remaindered in 1935 and the original plates destroyed in 1942.⁹ A reprint was issued in 1969, as detailed in note 3.

Extant manuscript materials

The manuscript materials relating to *New Musical Resources* are held in a single box, containing six unnumbered folders whose contents are as detailed below.¹⁰

9 Godwin, “Preface,” xi. Again, there is no evidence for these statements among those *New Musical Resources* materials which were available for consultation.

10 With the exception of his music manuscripts, all of Cowell's papers are housed in the Cowell Collection, Music Division, New York Public Library for the Performing Arts. Access to the collection is currently restricted and I was allowed access only to the single box marked “Cowell Coll. // v1 / Box 1 // By HC (Books) // New Musical Resources.” As is detailed below, the box contains a number of items which belong elsewhere in the collection; there is thus every reason to assume that materials relating to *New Musical Resources* may be misplaced in other boxes. Until access to the collection is normalized, and the collection is properly cataloged, no definitive account of the genesis of *New Musical Resources* can be given. The “New Musical Resources” box contains six unnumbered folders; their ordering and numbering as given here was determined simply by the folders' relative positions in the box on 13–15 April 1994 and 1–4 April 1995.

[Folder 1]

Two sets of galley proofs for the 1930 printing, here called [1930pi] and [1930pii].

- i [1930pi] has attached a note from the publisher dated 7 November 1929. Markings are mainly by the copy-editor (usually in green or blue pencil). Cowell's answers to specific queries are in black pencil; he also made a few very minor alterations to the text, usually of punctuation. Music examples are laid in, either pinned or glued to the proofs; some were only set in their final form after the proof stage. This set (and especially its music examples) is in a fragile state.
- ii [1930pii] appears to be from a slightly later stage, and for internal use only; an incomplete note attached to the first sheet indicates that this is the set of page proofs. Diagrams are printed and in place; some music examples are entirely absent. Markings are not in Cowell's hand, and relate to copy-editing and printing matters.

[Folder 2]

Two (spirit duplicated) sets of the original typescript, here called [1919t]. [1919ti] (discussed here) is the more complete of the two sets: it consists of forty-one typed pages and includes music examples. On page 1, in the top left-hand corner, Sidney Cowell has written, in pencil: "[This draft prior to revision for publication – SRC]."

Substantial differences exist between [1919t] and the published version of the text, here called [1930]. These differences are discussed on pages 162–169.

[Folder 3]

Miscellaneous sheets, here called [1919M], relating to [1919T]; plus one misplaced item.¹¹

i three sheets [1919Mi–iii] each having handwritten music examples, in black ink, glued on. The examples are numbered 1, 2a, 2b, 3a, 3b, 4, 5, 6, 7.

2a and 4 do not appear in [1930].

ii a single sheet of music paper [1919Miv], approximately 4" x 1", written in black ink, with typed rubric "Fig. 35." This equates to Example 48 in [1930].

iii four variously sized sheets [1919Mv–viii] of typed rubrics for examples, as follows:

[1919Mv] rubrics for examples 2b, 3b.

[1919Mvi] rubrics for examples 10a, 10b, 14, 15, 17.

[1919Mvii] rubrics for examples 6, 6 (with longer text), 7, 10a, 10b, 14, 15, 17.

[1919Mviii] duplicate of [1919Mvii].

[Folder 4]

Similar materials to those in [Folder 3] but in far greater quantities [1919Mix–x]; plus one misplaced item.¹²

11 The misplaced item is a single typed page (numbered 8) on the work of Paul Creston.

12 The misplaced item is a tiny fragment of a typed letter which appears to have no relevance to *New Musical Resources*. Between them, [Folder 3] and [Folder 4] contain a complete set of rubrics for [1919T], but eight of the examples are missing. However, [1919Ti] itself contains a complete set of examples and rubrics: the former are handwritten in black (or occasionally blue) ink and pasted onto regularly sized sheets, accompanied by the corresponding rubrics. Four of [1919T]'s examples do not reappear in [1930]; conversely, nine of [1930]'s fifty-six examples are not found in [1919T].

- i [1919MIX] a large number of handwritten music examples, in black ink; some are already cut; others are on larger sheets containing one or more examples; most have typed identifiers (e.g. "Fig. 8.") or rubrics.
- ii [1919MX] a large number of typed rubrics for the music examples, most in multiple copies (four or more); some are already cut.

[Folder 5]

Various items of correspondence, here called [1930c], mostly relating to the 1930 publication of *New Musical Resources*; plus some misplaced items.¹³

- i [1930ci] a handwritten, pencil note by Sidney Cowell, on a manila folder; not dated. Text as follows:

"1st outline begun in 1916

1919 Book finished with much help from SS Seward Jr (all during the year of their courtship says Amy Seward in 1962, she had to compete with that book!)

Revised in presentation and cut in 1929 for publ. [by?]

Knopf that year (or maybe 1930 was publ. date) But no essential change Henry thinks. Parts omitted were loaned to John Cage who preserved them & they are or will be at NYPL

13 The order of the items given here is that of their relative positions in [Folder 5] on 13–15 April 1994 and 1–4 April 1995. The misplaced items are (1) an incomplete set of lecture notes (in Cowell's hand?) for a lecture on mainly far-eastern music, including indications of where (?recorded) examples would be played; (2) two letters (one each from William Lichtenwanger and Lee Fairley) dated September 1950, inviting Cowell to review items for *Notes*; (3) a letter from *The Musical Quarterly*, dated 1951, accompanying payment for a "Current Chronicle" article by Cowell of January 1951.

with other Cowell papers & mss. & proofs of the published book."

- ii [1930cii] four flyers from Knopf, printed black on gray paper; not dated. The announcement of *New Musical Resources* is coupled with that of Winthrop Parkhurst's *The Anatomy of Music*.
- iii [1930ciii] letter addressed to Mr. B.W. Walton, West 68th St., New York; dated 6 March 1930; sent by Frederick Hutchins, Registrar of the State Conservatorium of Music, Sydney, Australia. It acknowledges Walton's letter of 28 January 1930, which had accompanied a copy of *New Musical Resources*; the copy "has been placed in the Conservatorium Library . . ." ¹⁴
- iv [1930civ] a fragile, handwritten note by Henry Cowell; not dated. Text summarized as follows:
 [side 1] "Pledges Toward Book Publication" lists those who have pledged to buy copies, the number of copies so pledged, and whether or not payment has been received. Blanche Walton took 100 ("Paid"), [Georgia] Kober 25, [Richard] Buhlig 5, [Mrs. John B.] Casserly 20, [Charles] Ives 5, etc. The list contains around thirty names and notes that "129 copies, besides Blanche, sent out as sold." ¹⁵
 [side 2] appears to be a list of those who had been, or were to be, asked to pledge; some names duplicate those on [side 1]. Over both sides is a list of over 100 individuals to whom complimentary copies had been sent.

¹⁴ "Mr. B.W. Walton" was in fact Cowell's friend and patron Blanche Walton, whose importance to *New Musical Resources* is discussed below.

¹⁵ One assumes that most of Blanche Walton's 100 copies were sent out to potentially interested institutions, as is indicated by [1930ciii].

v [1930cv] a selection of letters, apparently responding to pledge requests from Cowell; some contain pencil annotations by Sidney Cowell; all appear to date from February 1929.

vi [1930cvi] a photocopy of a *Times Literary Supplement* review of the 1969 reprint of *New Musical Resources*.

[Folder 6]

Typescript toward [1930], here called [1929T]. Sixty-five normal-sized sheets, being either (new) top copies [1929Tn], or (older) duplicated sheets [1929To], or some combination of the two; no music examples, though all the textual references to them are in place. The top sheet has pinned to it a note relating to the (type) setting. The typescript is fairly heavily annotated in red ink (?by the copy-editor, presumably for the typesetter); it also contains black pencil markings and alterations by Cowell, most of which occur on the duplicated pages or portions of duplicated pages (the newly typed pages and portions, in contrast, usually contain only the marks of the [?copy-editor]). The text *as edited* is that of [1930]; the vast majority of the editorial corrections are of spelling, grammar and punctuation.

The [1929To] sections – whether whole pages or less – are taken directly from another (third) set of [1919T]. These [1929To] sections – often containing changes by Cowell – are interlinked with, and pasted onto, those of [1929Tn]; generally speaking, the earlier parts of [1929T] consist of [n] text and the later parts of [o] text. Apart from the new text contained in the [1929Tn] pages, also new here are Cowell's "Introduction" and "Definition of Terms" (see below).

Differences between [1919T] and [1929T]/[1930]

In essence, therefore, there are two distinct versions of *New Musical Resources* – that contained in the earlier duplicated typescript [1919T], and that which was published [1929T]/[1930]. As was stated earlier, the date of [1919T] cannot be ascertained from the materials currently available: the range of possibilities extends from 1919 to 1928; however, the *textual substance* of [1919T] places it firmly at the earlier end of the range, as will be apparent from the following discussion.

Extant correspondence [1930cv] seems to support Godwin's assertion that Knopf had been approached – and had responded fairly positively – by early 1929; equally, [1930P] can be placed with certainty in November 1929. The original material sent to Knopf must, though, have been [1919T], as the text of [1929T] – for reasons discussed below – could only have been written following Cowell's visit to Russia in May 1929.

In [1930ci] Sidney Cowell suggests that [1930] was “revised in presentation and cut in 1929 . . . But no essential change Henry thinks.” Neither half of this statement is entirely accurate, however; for although some relatively short sections of [1919T] were indeed cut, and do not reappear in [1930], the texts which replaced them are invariably more substantial. Furthermore, while the general thrust of Cowell's argument remains the same in both versions of the text, the range of reference in [1930] is far greater and more impressive than in [1919T].

It would be inappropriate to discuss here the myriad minor differences which exist between the two versions of *New Musical Resources*; the substantive differences, though, are detailed below.¹⁶

16 As has been noted above, the music examples in [1919T] are accompanied by rubrics. In general, these are not referred to in the following discussion.

“INTRODUCTION”

In [1919T] this is titled “Personal Introduction” and consists of three fairly short paragraphs which baldly state Cowell’s reasons for writing the book. The last paragraph thanks both Charles Seeger and Samuel Seward for their help; the reference to Seeger as “my friend and former teacher” places the text after 1917, as would be expected.

[1930]’s “Introduction” is entirely new and considerably longer. While its basic function is not dissimilar to that of [1919T], the range of reference to matters both scientific and musical demonstrates the breadth and depth of Cowell’s experiences during the intervening period. Indeed, none of the references to individual composers, scientific and musical texts, etc., found here appears in [1919T].¹⁷ Nor does Cowell refer in [1919T] to the “theory of musical relativity” which *New Musical Resources* has now come to embody [1930, pages xi, xvi–xvii in the present edition]. The final paragraph of [1930] still acknowledges Seward’s help, but puzzlingly omits any reference to Seeger. There is no obvious explanation for this, lest it be connected with the issue of historical precedence: either Cowell may have been attempting to cover his musical traces, or he and Seeger may have had a disagreement.¹⁸

17 While we can hardly expect Cowell to have referred in [1919T] to texts that had yet to be written, he also failed to cite A. Eaglefield Hull, *Modern Harmony: its Explanation and Application*, (London: Augener Ltd., 1914). Equally significant, both here and elsewhere in [1919T], is Cowell’s apparent lack of knowledge of other contemporary composers and musical trends.

18 In Seeger, “Henry Cowell,” on page 288, we read that “[Cowell] swiped many of his best (and some of his worst) ‘ideas’ from me, and occasionally acknowledges it” (as Cowell had in [1919]). Seeger’s remarks regarding autodidactation, found later on the same page, are

“THE INFLUENCE OF OVERTONES IN MUSIC”

In [1919T] this is titled “The Law of Overtones in Past Musical History” and is the first section of Chapter – rather than Part – 1.

A number of passages in [1930] are new, and have no equivalent in [1919T]. These are:

- i page 3/lines 6–17.
- ii page 4/line 6 to page 7/line 10.

However, a paragraph cut from [1919T] does equate to [1930]’s page 5/lines 1–4. This cut paragraph – which was actually placed on what in [1930] is page 9, between lines 27 and 28 – includes one of [1919T]’s few references to a published text: Dayton C. Miller, *The Science of Musical Sounds*, (New York: The Macmillan Company, 1916).¹⁹

- iii page 11/line 8 (i.e. after the chart) to page 12/line 2.

The ensuing discussion, as far as page 16/line 18, is far less substantive in [1919T] and includes reference only to the work of Beethoven, Wagner, Debussy and Schoenberg.

- iv page 17/lines 5–13 and 17–23.

- v page 18/line 6 to page 23/line 16. Cowell’s knowledge of the topics discussed here was gained during the 1920s. In particular, his references to Georgy Rimsky-Korsakov and

also of relevance. Cowell’s covering of the traces of his musical development is a strong sub-plot throughout Hicks, “Cowell’s Clusters.” By 1930, Seeger was beginning to move away from composition and towards (mainly ethno-) musicology. Conversely, he was currently teaching Ruth Crawford composition, while an article on dissonant counterpoint – which parallels (and substantially amplifies) pages 35–42 of *New Musical Resources* – was soon to be published: Charles Seeger, “On Dissonant Counterpoint,” *Modern Music*, 7 (June–July, 1930): 25–31. See also Nicholls, *American Experimental Music*, 90–91, 134–141.

19 The title given in [1919T] – and here – is correct; that in [1930] is not.

Nikolai Garbuzov confirm that this new material could only have been written after his May 1929 visit to Russia.

In addition to these new passages in [1930], it should be noted that in [1919T] "The Law of Overtones in Past Musical History" concluded with what is now page 18/line 5. Page 23/line 17 to page 24/line 6 (including the undertone chart) appear in [1919T] in the section on "Polyharmony" (see below).

"POLYHARMONY"

In [1919T], page 25/lines 4 and 6 refer to undertones as well as overtones.

Page 25/line 18 is followed in [1919T] by two sentences referring to Schoenberg's use of the term "polyharmony" in his *Harmonielehre*.²⁰

[1919T] has no equivalent to [1930]'s page 25/line 19 to page 27/line 10.

In [1919T] some of [1930]'s material is placed differently. Specifically, [1930]'s page 23/line 17 to page 24/line 6 (including the undertone chart) appear in the context of what became [1930]'s page 28, between lines 3 and 4.

The rubrics from [1919T] which accompany [1930]'s Examples 3 and 4 are given on pages 149–150 of the "Notes on the text."

[1919T]'s discussion of "Polyharmony" concludes with what in [1930] is page 32/line 5: the remaining two sentences in [1930] are new.

20 The actual reference in [1919T] is to Schoenberg's "treatise on harmony" which was at this time only available in German, as Arnold Schoenberg, *Harmonielehre* (Vienna: Universal Edition, 1911).

“TONE-QUALITY”

This section does not appear in [1919T] and was newly written for [1930].

“DISSONANT COUNTERPOINT”

[1919T] and [1930] are effectively identical up to page 40/line 5. [1919T] then concludes with two short paragraphs not present in [1930]: their tone is very much of dissonant counterpoint being a relatively untried technique (which, in 1919 or thereabouts, it was).²¹ The considerably longer continuation of [1930] – with its references to music which had been written during the subsequent decade and its citation of composers more recent than Reger and Franck – is consequently rather less defensive in tone.

“RHYTHM [INTRODUCTION]”

[1919T] commences at page 46/line 18: there is no equivalent to [1930]’s preceding material. All other changes are minor, though a reference in [1919T] to Helmholtz – at page 47/line 20 – has been removed.

“TIME”

[1930] contains three passages which have no equivalent in [1919T]:

- i page 55/line 5 to page 56/line 3. The additional material, as is so often the case, expands the frame of reference.
- ii page 57/line 25 to page 59/line 7. The notation chart – given

21 The first paragraph begins “The ultimate test of this music, or of any music written on a new musical basis, is of course the practical one of ultimate acceptability, and that is obviously a question for the future.”

as Example 9 in [1930] – is present in [1919T], but Example 10 is not. The new text – including Example 10 – is intended primarily to amplify further the advantages of the notational system, as perceived by Cowell.

- iii page 62/line 16 to page 66/line 10; [1919T] ends with what in [1930] is Example 14. [1930]'s references to the player-piano and to the mechanical instrument described on pages 65–66 are discussed below, on pages 173 and 171 respectively.

“METRE”

The only new text in [1930] occurs between page 69/line 13 and page 71/line 18.

Additionally, [1930]'s Example 17 (and the preceding reference to it on page 72) are not present in [1919T].

“DYNAMICS” AND “FORM”

These sections do not appear in [1919T] and were newly written for [1930]. The reference on page 85 to Georgii Konius further demonstrates that this new material could only have been written following Cowell's May 1929 visit to Russia.

“METRE AND TIME COMBINATIONS”

The texts of [1919T] and [1930] are effectively identical.

“TEMPO”

The only significant difference is the addition in [1930] of a new paragraph from page 93/line 10 (i.e. after Example 24) to page 94/line 2.

"SCALES OF RHYTHM"

[1919T] and [1930] are effectively identical, but for the following exceptions:

- i [1919T] has a more extensive introduction than [1930]; the cut text, constituting approximately half of one typed page, was originally placed on page 98 between lines 21 and 22.
- ii the sentence in [1930] on page 104 (lines 15–17) concerning the player-piano is not found in [1919T].
- iii this section of [1919T] finishes at page 108/line 2. The text from "or the..." onwards – with its references to Chopin, Stravinsky, Ives et al. – is new in [1930].

"BUILDING CHORDS FROM DIFFERENT INTERVALS"

This section does not appear in [1919T] and was newly written for [1930]. Consequently, [1930]'s overall title for Part III – "Chord Formation" – is also new.

"TONE-CLUSTERS"

[1919T] starts quite differently from [1930]: the two versions only come together at page 121/line 3. Thus [1930]'s page 117/line 1 to page 121/line 2 are new.

The corresponding material excised from [1919T] consists of five paragraphs which together fill less than one typed page. In this excised material, Cowell refers to Schoenberg and Ornstein; given the importance of both composers (and especially the latter) to the development of tone clusters – and Cowell's own later attempts to establish his historical precedence in this area – this is a significant revision.²²

22 On Cowell, Ornstein, Schoenberg and the development of the tone cluster, see Hicks, "Cowell's Clusters," 437–440, 451–452.

The following minor additions appear in [1930]:

- i page 121/lines 14–18, as well as the two parts of Example 32 that surround them. In fact, this originally constituted the two parts of [1919]'s example 18; the text was the rubric to (b). The example appears in the third of the five excised paragraphs referred to above.

- ii page 125/lines 6–7.

From page 136/line 5 (i.e. after [1930]'s "(See Example 54.)") the two versions again go their separate ways. [1919] includes a short discussion of what might be termed tonality-based clusters, which is replaced in [1930] by the text running from page 136/line 5 to page 137/line 11. The remainder of [1930] is a substantial reworking of the brief, and rather more hesitant, final paragraph of [1919].

"DEFINITIONS OF TERMS"

This material does not appear in [1919] and was newly written for [1930].

"New Musical Resources" and the music of its own time

Given that Cowell probably wrote *New Musical Resources* out of "the necessity to systematize his use of musical resources," while simultaneously creating "the initial repertoire embodying his innovations," strong links between the "theory of musical relativity" and his music are easily established.²³ The only complicating factor is that while [1919]'s text is fully coterminous with

23 (1) Godwin, "Preface," xi–xii; (2) Weisgall, "The Music of Henry Cowell," 487.

Cowell's works of the period 1916–19, that of [1930] both views those earlier works with the benefit of hindsight and adds a new layer of commentary on pieces composed during the intervening decade.

Not all the techniques discussed in *New Musical Resources* found practical expression in Cowell's music. He only occasionally uses polyharmony and sliding tones, for instance, while a number of ideas – including the ordering of tempi and dynamics – are seemingly never taken up. In other cases, however, theory and practice are inextricably linked. Thus an early form of dissonant counterpoint – which had itself originally been devised by Charles Seeger in connection with his teaching of Cowell – underlies many pieces from the 1910s and 1920s. These include the String Quartet No. 1 (Apr. 1916)(L197), the string quintet *Ensemble* (1924)(L380), the *Seven Paragraphs* for string trio (1925)(L408), and the Movement for String Quartet (1928)(L450). Similarly, the rhythmic and metric complexities of the *Quartet Romantic* (Sep. 1917)(L223), *Quartet Euphometric* (Sep. 1919)(L283), and the piano work *Fabric* (Sep. 1920)(L307) are explained in *New Musical Resources* in the sections on “Time” and “Metre” (pages 49–66 and 66–81 respectively). Cowell's use of tone clusters (which are discussed in the book's final chapter) is well known: indeed, cluster-dominated works such as *Dynamic Motion* (Nov. 1916)(L213/1) and *The Tides of Manaunaun* (Jul. 1917)(L219/1) are among his most popular. It might be noted, incidentally, that Cowell's use of many of these techniques was not curtailed by the publication of *New Musical Resources*, but rather that he continued to employ them after 1930.²⁴

24 For a much fuller discussion of the links between *New Musical Resources* and Cowell's music written before 1940, see Nicholls, *American Experimental Music*, 134–159.

There are also a relatively small number of instances of Cowell taking up for the first time in his post-1930 work ideas which had been mooted in *New Musical Resources*. On pages 65–66, Cowell describes an “instrument . . . which would mechanically produce a rhythmic ratio, but which would be controlled by hand.” Such an instrument – which he called the rhythmicon – was built for Cowell in 1931, by Lev Termen. Although Cowell seems originally to have conceived of the rhythmicon as – in Lichtenwanger’s words – “merely a highly sophisticated metronome” he also wrote at least two pieces for it – the Concerto for rhythmicon and orchestra (Nov. 1931)(L481) and the lost [Music for violin and rhythmicon] (May 1932)(L485).²⁵ In another, more general, sense Cowell seems to have followed his own advice regarding form (pages 84–85). Before 1930, Cowell’s music tends not to exhibit sophistication of formal construction; but in a series of pieces from 1934 onwards – including *Ostinato Pianissimo* (1934)(L505), the *United Quartet* (1936)(L522), and *Pulse* (May 1939)(L565) – he explores the organization of form through means which (while not in any apparent way relating to the metrical harmonies suggested in *New Musical Resources*) certainly “make for perfection of outline, and . . . give a clarity and purpose to the composition as a whole, which are often lacking in works using experimental material” (page 84). Somewhat paradoxically, during the same period he also continued with the (diametrically opposed) exploration of variable form first suggested in *Anger Dance* (May 1914)(L104/6).²⁶

25 Lichtenwanger, *The Music of Henry Cowell*, xxix, 132, 135. See also Henry Cowell, “Preface,” *Quartet Romantic [and] Quartet Euphometric* (New York: C.F. Peters Corporation, 1974), [v]; here Cowell suggests that discussions with Termen may have taken place as early as 1929.

26 See Nicholls, *American Experimental Music*, 167–174, for a discussion of Cowell’s various formal experiments of this period.

As well as aiding our understanding of Cowell's music, some of the ideas discussed in *New Musical Resources* also have relevance to the music of several of his contemporaries. Dissonant counterpoint, as mentioned earlier, was first devised by Charles Seeger in the late 1910s, at least partly in connection with his teaching of Cowell. Examples of pieces written within its disciplines include not only many works by Cowell, but also pieces by Seeger, Carl Ruggles, John J. Becker, Lou Harrison and – most importantly – Ruth Crawford. Cowell partially describes Ruggles's compositional practice on pages 41–42 of *New Musical Resources*, while Seeger's discussion of both Ruggles and Crawford is found in Cowell's later compilation *American Composers on American Music*.²⁷ Similarly, tone clusters are found not only in Cowell's work, but also – in differing ways – in that of Ives, Ornstein, Schoenberg, and Crawford, to name but four. And, as the text of [1930] makes clear, there are other techniques discussed in *New Musical Resources* which also have resonances in the music of Cowell's contemporaries.

“New Musical Resources” and the music of more recent times

Although the “theory of musical relativity” has never been taken fully on board by any composer – including Cowell himself – both *New Musical Resources* and many of the individual ideas

27 Henry Cowell, ed., *American Composers on American Music* (Stanford: Stanford University Press, 1933; New York: Frederick Ungar Publishing Co., Inc., 1962). Ruggles and Crawford are discussed in chapters 11 and xvii respectively. Cowell's estimation of Seeger appears as chapter xviii. See also Nicholls, *American Experimental Music*, 89–140, for a discussion of the dissemination of dissonant counterpoint.

contained within it have continued to influence modernist thought, either overtly or covertly. Indeed, in some instances what might to Cowell have seemed throwaway remarks have been taken surprisingly seriously. The most obvious example of this is the mature work of Conlon Nancarrow, which is directly attributable to Cowell's suggestion (on pages 64–65) that while "Some of the rhythms developed through the present acoustical investigation could not be played by any living performer . . . [they] could easily be cut on a player-piano roll." Equally, sliding tones and natural sounds (pages 19–21) have been of enormous importance – either conceptually or compositionally – to several composers, including La Monte Young and Iannis Xenakis.

Cowell's thoughts on tempo (pages 90–98) anticipated a number of innovations in post-war music, including Elliott Carter's metric modulation, and the temporal complexities of both Cage – in the *Music of Changes* (1951) and elsewhere – and his European contemporaries. Interestingly, the *Music of Changes* was one of Cage's last works to employ the so-called "square-root form" which had been the basis of his compositional technique since 1939. "Square-root form" had itself been derived from those mid-1930s formal procedures of Cowell's mentioned earlier. After reaching its apogee in the music of Ruth Crawford, dissonant counterpoint *per se* has slowly disappeared from common usage. But tone clusters have proved to be a resilient and robust resource: volume 5 of *Die Reihe* contains an extended essay on their possibilities, while composers as different in outlook as Lou Harrison, Xenakis and Frederick Rzewski have recently employed clusters in their works.²⁸ Perhaps the final words on the continuing importance of *New*

28 Mauricio Kagel, "Tone-clusters, Attacks, Transitions," *Die Reihe*, 5 (1959): 40–55.

Musical Resources should come from Mauricio Kagel. In "Tone-clusters, Attacks, Transitions," Kagel praised Cowell's book for being "one of the few documents to treat concretely and shrewdly the ideas about musical theory developed during the first half of the twentieth century . . . we return to [its experiments] not in order to discover an unknown method but to show that, even today, Cowell's reasoning can be reconciled with the newest problem of serial music . . . His book is therefore a document whose theoretical approach, still relevant forty years after it was written, illuminated aspects of technique, while not burdening itself with outmoded aesthetic demands."²⁹ A further forty years on, Kagel's view of *New Musical Resources* is still entirely apposite.

29 Kagel, "Tone-clusters, Attacks, Transitions," 40–41.