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Book Review

Teresa Balough and Kay Dreyfus, eds. ***Distant Dreams: The Correspondence of Percy Grainger and Burnett Cross 1946–60***

Melbourne: Lyrebird Press, 2020
ISBN 9780734037947. xvii+182 pp., ills, photos, chronology of letters, select bib., ind.

Reviewed by Erinn Knyt

> Percy's name brings to mind *Country Gardens* and *Handel in the Strand* and *Spoon River* and pieces like that, or it may bring to mind a very famous and well-beloved pianist, but it doesn't bring to mind for any people at all what Percy thought was his real claim to some achievement, and that was his work as an experimenter. [This] is practically unknown … an astonishing piece of pioneering work. I think of Percy sometimes as an unknown genius, because that's what he was.
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> —Burnett Cross, Interview with Robert Trumble, 1965 (p. 143)

Percy Grainger (1882–1961) is frequently remembered as a virtuoso pianist, a collector of folk songs, and an idiosyncratic composer. Yet in addition to his other activities, he also designed and built numerous sound-producing machines. These experimental machines enabled Grainger to begin realising the experimental music he envisioned, that is, sounds freed from traditional rhythms and pitches.

Grainger initially tried to create the new sounds he imagined with known instruments such as the theremin, but eventually began modifying instruments to create his own sound machines, such as the microtonal 'butterfly' piano. Grainger's main collaborator, Burnett Cross (1914–1996), a high school science teacher with a background in both physics and music, helped to make those dreams a reality. Cross contributed technical expertise as the two worked together to bring Grainger's ideas to life. Cross began working with Grainger in 1944 and became gradually more involved throughout the 1950s. By the late 1950s, Cross took the lead, especially with the electronic machine models.

Distant Dreams contains a collection of letters between Grainger and Cross. Edited by Grainger experts Teresa Balough and Kay Dreyfus, the letters make first-hand details about the

construction of the Cross-Grainger sound machines accessible for the first time. The volume also provides new knowledge about the working relationship between Cross and Grainger. As such, it makes available valuable details about a little-known aspect of musical experimentation in the mid-twentieth century.

Although there are already several important published collections of Grainger's letters, none has covered this particular working relationship in detail. For instance, *The Farthest North of Humanness: Letters of Percy Grainger: 1901–1914* (South Melbourne: Macmillan, 1985), edited by Dreyfus, focusses on an earlier period in Grainger's life. By contrast, the edited collections by Malcolm Gillies (*The All-Around Man: Selected Letters of Percy Grainger 1914-1961*, Oxford: Clarendon Press, 1994) and Balough (*Comrades in Art: The Correspondence of Ronald Stevenson and Percy Grainger, 1957–61*, London: Toccata, 2010) extend to the end of Grainger's life, but do not focus so exclusively on his collaborative efforts with Cross. A few sources discuss the Cross-Grainger sound machines (for example, Andrew Hugill, 'Percy Grainger: A Pioneer of Electronic Music' in *Grainger the Modernist*, ed. Suzanne Robinson and Kay Dreyfus, Oxfordshire: Routledge, 2015), yet the sound machines still remain some of the least discussed aspects of Grainger's creative output. This might be, in part, because most of the machines were never completed and were never intended for widespread public performances.

Throughout his life, Grainger envisioned different kinds of sound producing machines, some based on piano roll technology, some using oscillators, and some based on electronic technology. In the introduction to the book, Warren Burt positions the kinds of sound Grainger sought within the broader scope of sound experimentation, including as context composers such as John Cage, Karlheinz Stockhausen, Harry Partch, and Pierre Schaeffer. As with many early electronic music experiments, the Cross-Grainger machines were promising and visionary, even if they never entirely fulfilled Grainger's ideals. The Electric Eye Tone-Tool, which relied on light-controlled pitch, was perhaps the closest to reaching Grainger's ideals.

As Grainger explained in his letters, he was seeking to create sound machines that were simple enough to be operated by composers and did not require an intermediary interpreter or technical operator. He sought to create machines with a wide range of pitches that were not limited by half tone divisions; he also desired rhythms that were free from conventional notation or metric constraints. He described some of his ideals in his letter to Earle Kent: 'Preferably all intervals should be fluid (I mean: not limited to any arbitrary or "set" scale), but if intervals HAVE TO BE "SET", then the intervallic divisions must be as small as 4 divisions to the half-tone—8th-tones, in other words' (Grainger, letter of 12 Nov. 1951 to Kent, p. 65).

The current volume contains an introduction and two parts. Part I consists of 111 letters, most published for the first time, along with some commentary provided by the editors. Part II contains reproductions of essays and interviews by Cross along with photographs and illustrations. While not every letter between Grainger and Cross has survived, the editors still made the decision to omit seventy of the letters between the two. The editors included most of the letters dealing with the sound machines and left out many detailing more personal issues, such as Grainger's declining health in his later years. They also omitted many letters from 1956 when Grainger was attending exhibits in the Grainger Museum in Melbourne. At the same time, they chose to include one 'round letter to friends' and one letter to Kent: the letter to friends would most likely have included Cross as an addressee, and Cross also brought

Grainger's attention to Kent's sound machine. It is worth noting that the majority of the letters are by Grainger, who was a more prolific writer than Cross.

When creating the volume, the editors made the decision to preserve Grainger's idiosyncratic vocabulary choices, which allows Grainger's personality to shine through his prose. A few examples of less common terms found in Grainger's letters include 'Tone-wright' (composer); 'Odd-length pulse beats' (irregular rhythms); 'Tone-works' (compositions); 'She-low' (alto); 'He-high' (tenor); and 'Whither-write' (address).

The letters also provide numerous drawings of the proposed ideas and machines. For instance, Cross provided a detailed illustration of the photocell and light source he envisioned (Cross, letter of 30 Apr. 1957 to Grainger, p. 121). Grainger also included plenty of drawings in his letters, such as one of the Cross-Grainger Free Music Etsey Reed experimental instruments (Grainger, letter of 7 Aug. 1950 to Cross, p. 49).

Those unfamiliar with Cross will appreciate that the editors also provided a brief biography of his life in the introduction. Cross, who was affiliated with Columbia Teachers College, connected Grainger with technological experts such as Robert Stollberg (Natural Sciences) and Clarence Stone (Physics). However, it quickly became apparent that even experts could not provide a solution for Grainger's ideas about free-music machine construction. Instead, Cross became the most important technical consultant to Grainger as the two worked together to realise the composer's ideals, meeting together intermittently for over a decade. They worked collaboratively, by trial and error, as they constructed the sound machines. Cross's first contribution to Grainger's machines was in 1946, and he had become a co-inventor by 1949. By the late 1950s, Cross had taken the lead in designing the Electric Eye Tone-Tool.

The breadth of letters included in *Distant Dreams* reveals the scope of the friendship and the nature of the collaborations. Early correspondence centres on personal matters and folk music. One letter from 20 Feb. 1946 from Grainger to Cross states for instance:

> I am very happy at your idea of yourself imitating some of the old folksingers, & I shall be most interested to hear your results … After all, there is the same justification for wishing to imitate a folksinger (if one likes his art), as there is for wishing to imitate Paderewski on the piano (p. 14).

Conversations soon centred, however, more fully on the details of constructing the machines. Initially, Grainger articulated his vision for the projects while Cross assisted him with finding supplies or putting the machines together. The letters reveal that Grainger was usually responsible for thinking about ways to make the mechanical parts function. For instance, in one letter from 27 Nov. 1949 Grainger explained his vision for ways to create the new sounds by using 'screw-eyes':

> Thinking about what kind of attachment should be inserted into the keys of the player-piano, from which attachment the threads would connect with the solovoxes placed above the player-piano, I am inclined to favor the idea of screw-eyes, if we can get them small enough. The screweye has the advantage of being able to have the thread tied into it before it is inserted into the forward upright ends of the black & white keys, & is therefore less likely to get dropped into the key-bedding when it is being insert[ed] (p. 17).

Cross also made some suggestions for improvements to Grainger's ideas. However, as Cross was more of an expert in electronics, their initial roles reversed in the late 1950s, especially with

Grainger's declining health. See, for instance, a letter from 30 Apr. 1957 where Cross explains his idea for using a photoelectric cell to create musical tones:

> I have been experimenting a little with a new kind of photoelectric cell arrangement which gives off a musical (well, pretty musical) tone that varies in pitch according to the amount of light that hits the cell. So far, strange to say, the experiments have been favorable: the cell has not proved to be impossibly unstable. And I had a good thought the other day: why not place between the light source and the photocell some sort of correcting filter with which one could adjust or tune the cell as needed to counter any instability? (p. 120).

If Part I provides previously unpublished letters documenting the collaborations between Cross and Grainger, as well as new details about failed and successful attempts at creating Grainger's sound machines, Part II provides interviews and essays by Cross about the machines. While the essays have already been published elsewhere, this volume provides easy access to them, given that many are in hard-to-find or out-of-print sources. This section also includes valuable photographs of Cross and Grainger collaborating on their sound machines.

Overall, this book is a valuable addition to Grainger scholarship. The editorial commentary provides helpful context for the letters, including mentions of locations and biographical details. It also makes accessible a wide range of new information about the Cross-Grainger sound machines. *Distant Dreams* not only contains a trove of primary documents for the Grainger researcher, but also provides a broader understanding of Grainger's creative activities and the development of electronic and new instruments in the twentieth century. It is an indispensable resource for anyone interested in instrumental experimentalism in the twentieth century.

About the Author
Erinn Knyt is currently Professor of Music History at the University of Massachusetts Amherst. She has published extensively on Ferruccio Busoni and has a forthcoming book with Oxford University Press, entitled *Ferruccio Busoni as Architect of Sound*. Her article about teaching music history to graduate students, published in the *Journal of Music History Pedagogy*, was awarded the AMS Teaching Prize in 2018.