Spatial Design in Elliott Carter's

Canon for 3

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Elliott Carter's Canon for 3 was written in response to a request from the British periodical Tempo for a composition honoring the memory of Igor Stravinsky. The work was written in 1972 and was subsequently published by Associated Music Publishers. Despite its brevity, the canon unfolds a rich and complex design and affords a rare opportunity to glimpse, within a most concise format, the working out of various ideas in a manner typical of many of this composer's recent works.¹

I: Preliminary Observations

The instrumentation of this canon is left unspecified. In his notes preceding the score, however, the composer does make several recommendations: one, for a version employing three trumpets each with a different mute; and another, for a version with muted trumpet, clarinet and oboe.²

The piece may be divided into two sections: the first, mm. 1-16 and the second, mm. 17-26. In Section One each voice in turn presents the canon's opening statement, which consists of a single twelve-note row. In mm. 1-5 the first voice sounds $P_0$; in mm. 6-10, the second presents $I_6$; and, of course, in mm. 11-16 the third repeats $P_0$.

$$
P_0: \quad A \quad G \quad F^\# \quad E \quad B \quad B^b \quad E^b \quad C \quad A^b \quad D \quad D^b \quad F
$$

$$
I_6: \quad E^b \quad F \quad G^b \quad A^b \quad D^b \quad D \quad A \quad C \quad E \quad A^# \quad B \quad G
$$

¹See David Schiff, "Carter in the Seventies", Tempo, (Boosey and Hawkes Publishers, September 1979, No. 130), p. 5. This paper contains several noteworthy observations with respect to spatial design in the first song of Carter's cycle A Mirror on Which to Dwell.

Canon for 3

In Memoriam Igor Stravinsky

Elliott Carter
(1971)
So as to give these initial statements a profile both consistent among themselves and yet distinct from the remainder of the material of Section One, the composer assigns to each the same symmetrical rhythmic pattern:

\[ \text{\includegraphics[width=\textwidth]{rhythmic_pattern.png}} \]

In addition, each statement of this opening phrase is marked by frequent and bold dynamic articulation quite different from the constant, uninflected pianissimo with which the remaining material of these first sixteen bars is heard.

Section Two (mm. 17-26) continues the canon between voices but compounds the structure through a rather dazzling canonic tour-de-force. In these measures, while continuing to answer one another in the manner indicated above (second voice inverted at the tritone; the third at the unison), the three voices are combined, sounding together first the inverted transposed answer of the second voice (heard originally in bars 6-10), and then the unison answer (heard originally in bars 11-15).

mm. 17-21

\[ \text{\includegraphics[width=\textwidth]{mm_17-21.png}} \]

Composite of mm. 17-21; cf. mm. 6-10.
Thus, in Section Two Carter simultaneously recapitulates and extends his preceding material.

**II: Spatial Design**

The preliminary observations having been stated, the subject of this paper may now be fully addressed. In considering this composition's spatial design, one immediately notices the striking relationship between the manipulation of this parameter and the canonic procedure itself. Consistently, one discovers that certain spatial formations crystallize over time as the various reflections among the voices are heard in their successive unfoldings. Significantly, then, an exploration of the work's spatial structure may also reveal rich new insights into the use and meaning of the canonic procedure itself.

By superimposing the initial phrases of Voices One (or Three) and Two in a note-against-note fashion, a unique succession of vertical dyads is formed.
One immediately notes the following repetitions:

With this information the following three categories may be identified:

a) The unison or octave dyads:

\[ \begin{array}{c}
 & \text{unison dyads} \\
\end{array} \]

b) The registrally fixed dyads (that is, all pairs which recur in the same registral position):

\[ \begin{array}{c}
 & \text{fixed dyads} \\
\end{array} \]
c) The inverting dyads (that is, those dyads which recur in inverted spatial positions):

![Inverting Dyads](image)

(Note, each pair is first heard in its closed position, then in its open form.)

In addition, one might note that the registral disposition of tones almost completely fills the entire space established.

![Registral Disposition](image)

Only two tones are never heard. The importance of this will become clear presently.

Having extracted this data, one now begins to understand the work's spatial design. First, it should be observed that $C^5$ is registrally the central tone in the spatial field. Each of the other dyads -- and so, of course, the entire collection -- is arranged symmetrically around this particular C.

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3 Notation of registers: middle C is labelled $C^4$, the C one octave higher is $C^5$ and so forth; the C one octave lower is $C^3$ and so forth. All tones between $C^i$ and $C^j$, where $i$ and $j$ are adjacent integers, are given the superscript $i$ and so fall within register $i$. 
The importance of C⁵ is emphasized in the composition in various ways. It is the only tone repeated by the three voices in unison. Also, within the first phrase of each of the three voices the composer marks a crescendo up to this tone at which point the volume suddenly drops to piano (m. 4, first voice; m. 9, second voice; m. 14, third voice), three times calling attention to its structural importance.

In addition, it is important to note the specific roles occupied by several of the dyads categorized earlier. First of all, it seems clear that attention has been brought to two specific tones by their unison or octave pairings: C, the importance of which has been made clear from the foregoing discussion, and F#, the importance of which will become clear as the analysis proceeds. Clearly, however, if F# is to be situated symmetrically about C it must be paired with itself at some octave transposition, a situation which results from the composer's initial choice of row forms P₀ and I₆ both of which yield F# in the same position within the total succession of twelve pitches.⁴

With respect to the set of fixed dyads it should be noted that these occupy critical positions within the work's spatial design. These pairs, B⁴-D⁵⁵ and D⁴-B⁵⁵ are, respectively, the dyads closest to and farthest from the center, C⁵. In addition, D⁴ and B⁵⁵ are, respectively, the lower and upper extremities of the entire composition, limits which would, by the way, be superceded if the dyad B⁴-D⁵⁵ were ever inverted. Thus, the center of the field and its extremities are linked to one another in their invariant

spatial deployments.

In light of this, it is also important to note that these two dyads are always adjacent.

The manner in which these adjacencies arise is also quite important. In each case the successions are formed by leaps of a major sixth. The pair B⁴-D⁵ surrounds the central C⁵ at the distance of a semitone and, in addition, each member of this dyad is also linked with one of the extremities through the inversion of this same semitone distance.

As a result, ties between the core of this spatial field and its extremities are strengthened, ties which will be reinforced as the composition proceeds.

At this point it would be useful to recall that the dyads outlined above never actually sound as simultaneities. Rather, they are formed over time as the piece unfolds. As the first instrument presents its first twelve-note statement, it outlines an incomplete field which is crystallized only after the second voice adds its spatially complementary tones. Similarly, the second voice is itself completed as the original series is reiterated by the third voice. Within these opening bars the composer develops a complex spatial mosaic which is at once both static and dynamic. All dyads are fixed symmetrically about one central tone, though some remain unchanged while others invert around this spatial core.

Now that some of the relationships between the initial twelve-note statements of each voice have been identified, the remainder of the canon may be discussed. One of the first points to be noted is that the use of strict twelve-note successions is not continued. Rather, the collection of vertical dyads generated by the two series introduced in the first phrase is maintained with rigorous consistency, admitting only one, albeit extremely important, addition.

Continuing the procedure established earlier, superimposing the first voice with its inverse yields the following succession of dyads:
Immediately in the second phrase the composer introduces the single new dyad, $B^b_4-D^5$ and, so as to emphasize its importance, he states it twice in immediate succession. This phrase contains the only appearance of this dyad in the canon, and its presence here is quite revealing. First, one should observe that the two tones introduced here were the only two excluded from the opening (Phrase 1). As such, their appearance marks the final, complete filling-in of the entire space of the piece.

In addition, these two tones constitute the inverse of one of the previously fixed dyads, the dyad which, significantly, contains the upper and lower extremities of the piece.

As was the case with its inverse, this new dyad is located adjacent to the other fixed dyad heard in the first phrase, $B^4-D^b_5$. This, as may be recalled, is the pair closest to $C^5$ and constitutes the crucial link between the center and the extremities.

The second phrase immediately focuses upon these crucial relations. In it the composer underscores these registral connections by first inverting the dyad containing the extremities, then sounding this inversion once again, adjacent to $B^4-D^b_5$, and finally proceeding immediately to the center, $C^5$. 
This single brief passage seems to crystallize many of the subtle connections among the crucial tones of the spatial design encountered earlier in the composition.

The third phrase is equally revealing, as it reverses the motion of its predecessor, unfolding outward symmetrically from the C which concluded the second phrase. This it accomplishes through a succession of minor thirds:

\[
\text{\begin{align*}
\begin{array}{c}
\text{closest inverse of center} \\
\text{dyad extremities to } C_5
\end{array}
\end{align*}}
\]

Of course, had this succession been carried one step farther, the motion outward would have arrived at \(C^4\) and \(C^6\) and so possibly suggested a transfer of the original \(C^5\) simultaneously one octave in both directions.\(^5\)

\(^5\)In addition, such a motion outward suggests one possible explanation for the emphasis given to the tone \(F^\#\) as the only other unison dyad. The two \(F^\#\)'s employed in the piece symmetrically divide the space outlined by \(C^4\), \(C^5\) and \(C^6\).

As such, they strengthen the implication of motion outward from \(C^5\) to the octave \(C^4-C^6\).
However, the canon conspicuously avoids these tones. Its boundaries remain $D^4-B^5$ and whenever the piece reaches these limits it folds back into the center via the $B^4-D^5$ dyad. Thus, rather than as boundaries of a static field, one might think of the extremities as two critical pivot points within a dynamic spatial evolution.

Once again, the center and extremities are linked in an unbroken spatial continuum.

The fourth phrase of the composition begins with the dyad $B^4-D^5$ and proceeds outward, recapturing several more of the dyads first generated by the opening twelve-note series. The fifth and last phrase sounds the single remaining dyad $(A^4-B^5)$ not yet heard in the second through fifth phrases, completely filling in the space of the composition for a second time. Significantly, the very last phrase itself concludes with a configuration which quite succinctly and dramatically focuses upon the composition's most important elements.

As the foregoing analysis shows, Elliott Carter's Canon for 3 unfolds a unique and complex spatial design. The interplay between static and dynamic elements fashions a striking mosaic in which the registral deployment of tones is organized with remarkable subtlety. The composition is a rare gem, the brevity of which belies the richness of its ingenious structure.