

The third area for proportion utilization is in the vertical arrangement of chordal and dissonance effects. Since the compositional exercise under consideration is a piano piece, it is idiomatic to maintain a large number of notes in motion for effective performance results.

Suppose, then, that in the first section of the piece that three notes were assigned to the left hand and five to the right, which arrangement can be inverted for contrast. In the second section, greater activity may be devised for increased interest. This is obtainable by increasing the number of notes to, let us say, five and eight still in the Fibonacci series or to another series such as Lucas' four and seven. To heighten the organization further, the notes assigned to each hand could be proportionately divided between concords and discords.

These are mere clues to a kind of organizational thinking that is available to composers. It would, of course, be impractical to maintain such rigid internal organization throughout an entire composition, although there are movements in Bach where this does actually occur. It is more likely that such a plan would constitute a norm from which the composer can deviate, either systematically according to intentions or whimsically and freely. Above all, a systematic substructure must leave the composer unfettered and free. Any technique must be a help to the composer, never an obstacle to be conquered. Thus, it is quite possible that the proportion scheme from which a composition has its arising may never be definitely identified through the conventional academic processes.



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geometrical ingenuity and thereby arriving simply and intuitively at algebraic relations involving Fibonacci numbers, Lucas numbers and general Fibonacci numbers. It appears that there is a considerable wealth of enrichment and discovery material in the general area of Fibonacci numbers as related to geometry.

Reports of other types of geometric designs that lead to the discovery of Fibonacci formulas would be welcome by the Editor of the Elementary Section of the Quarterly.

