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"Leonardo dreams of his flying machine" - stylistic aspects. Inside Eric Whitacre's fascinating musical world

Ana Maria MELINTE[1], Mădălina IONESCU[2], Mirela MATEI[3]

Abstract: *Grammy Award-winning composer and conductor Eric Whitacre is among today's most popular musicians. Born in Nevada in 1970, Eric is a graduate of the prestigious Juilliard School of Music (New York). Charles Alan Sylvestri's poem "Leonardo dreams of his flying machine" is a dramatic story of hope and optimism that takes the listener on a great adventure into the great unknown. Leonardo functions as the agonist of the poem who is "tormented" by his need to fly and touch the sky. Leonardo da Vinci was certainly the definition of a true "Renaissance man". Da Vinci is also regarded as one of the greatest inventors to have ever lived; his notebooks are filled with sketches and notes for inventions that were far ahead of his time. What must have been going through his mind when he was coming up with these revolutionary ideas? That is the question that composer Eric Whitacre and poet Charles Anthony Silvestri attempt to answer in this piece, "Leonardo Dreams of His Flying Machine".*

Key-words*: Whitacre, Silvestri, Leonardo, flying machine, contemporary choir music*

1. Introduction

"Leonardo dreams of his flying machine" is a musical "encomium" dedicated to Leonardo da Vinci, the illustrious man of the Renaissance culture. The music is composed by Eric Whitacre, the lyrics belonging to Charles Anthony Silvestri. The two authors (who are connected by an old and lasting friendship) closely collaborated on the creation of this masterpiece. As Silvestri stated, some passages in the work are music inspired by the lyrics and some others are lyrics influenced by

[1] *Valahia University of Târgoviște*, annie_puiu@yahoo.com,
[2] *Valahia University of Târgoviște,* madalina_burlan @yahoo.com,
[3] *Valahia University of Târgoviște,* mirela_matei247@yahoo.com

music. Our following pages are a foray into the literary and musical universe of above-mentioned work.

2. Literary background

The idea of the composition belongs to Whitacre who also formulated the title, presenting it to Silvestri and asking for his poetic and historical skills. There followed, between the two, an extensive dialogue about Leonardo's ornithopter, which focused not only on clarifying the source of inspiration for the flying vehicle (which they identified as a dream or vision) but especially on outlining the sound framework conducive to the dream and flight. The dialogue convinced Silvestri to go through da Vinci's Treatise on the Flight of Birds (*Codice sul volo degli uccelli*). The manuscript, considered to be the first treatise on aerodynamics, formed the basis of the first version of the text, which was shaped around information extracted from da Vinci's treatise. However, Whitacre's intention to create an "opera breve" convinced Silvestri to transform his text into a mini-libretto. Thus, the final form of the text underwent changes in scope and metric imposed by the musical discourse[4].

The title contains the narrative's keywords: Leonardo – dreams of– flying machine. It also opens each of the three acts as a narrative summary, providing structural coherence to the text and diminishing the informational deficiencies caused by its brevity.

Unlike the two-act sound material, we note that the libretto of the mini-opera has a tripartite structure, as shown in the table above. We also note that Silvestri uses bilingual verses: the narrative passages are written in English and integrate, in Italian, some fragments of da Vinci's treatise on flight and the siren like exhortation to flight. The text has symmetrical form, each act follows a fixed outline: summary (title) – narrative – the inspiration (the calling, daemon's voice) – Leonardo's voice (fragments of the treatise on flight, except for the third part of the text).

The first act depicts Leonardo imagining a flying machine. Silvestri plays with the semantics of the verb "to dream" and conceives a dance between dream and revelation. We notice the emphasis on Leonardo's torment. The hero is torn between the intense desire to fly and the acute fear of falling and failing.

The second act unveils the portrayal of Leonardo as a romantic genius. The hero works late in the night; in the diffuse candlelight, he travels between dream

[4] https://ericwhitacre.com/music-catalog/leonardo-dreams-of-his-flying-machine.

and reality; the sun rises (is it the real sunrise or just the dream?) and Leonardo watches the flight of pigeons, writing down his observations. Silvestri stated that this image greatly impressed him, which explains the central position it occupies within the libretto.

The third part shows us Leonardo climbing the watchtower of the city, at midnight, gasping for air and, connected to the machine, jumping into the void and ... flying. We do not know if the flight is real or in a dream. Both in the libretto and the score, the ending is open.

3. The elements of musical style

Fascinated by the balanced Renaissance music and, also, by the effervescent Baroque techniques, Whitacre projects a "sonic gem" that clearly reflects his solid "know-how" in polyphony and early music. Enveloped in an obvious Renaissance fragrance and pigmented by 20th century sonorous boldness, the debut of the piece introduces us to the striking atmosphere of the Monteverdi's madrigal. The composer himself declared, in an interview (Wine 2017, 44-58), that this opus is entirely dedicated to Monteverdi, to the seductive elegance and grace of his creations. Conceptually speaking, Whitacre's musical edifice expresses the idea of opera-brevis, twinned with the madrigal line of voices.

Thus, the opening passage, carried out in the first 8 measures, proposes – through the contrapuntal chaining of voices, through imitative techniques and delays (chain suspension) – a musical discourse of great density and expressive tension. The complexity of the polyphonic textures used in the Renaissance and the means of expression specific to the era (chain of delays, recitative, Picardian thirds, natural triads), interspersed with the composer's own style, recreate for the listener the historical period of the late Renaissance, dominated by Leonardo's great spirit (Hall 2012, 130).

The introduction in F minor, the chaining of the dominant type with C major, in a tonal-functional sense, the context of the polyphonic writing and the sound effects given by the dissonances in measures 6-7 and the Picardian cadence, outline the universe of the entire piece on a microcosmic level. Whitacre motivically expounds his compositional ideas, abundantly using varied techniques designed to aurally induce to the listener the flight, the dream, the fall and the creative torment of genius.

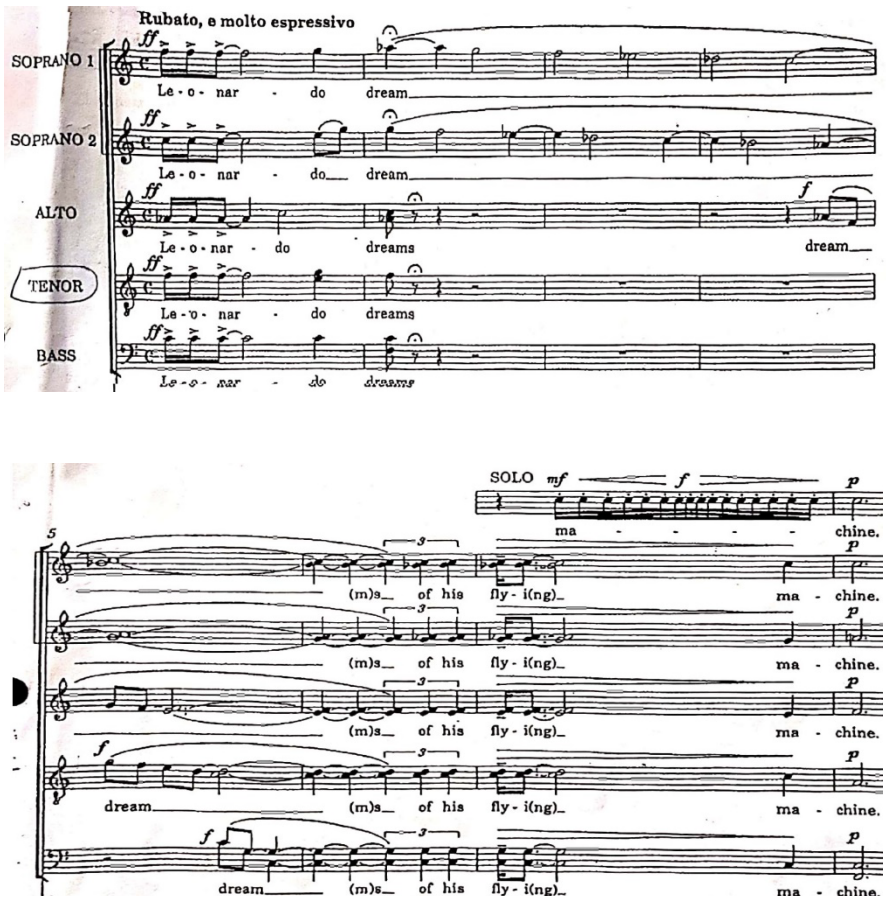

Fig. 1. *E. Whitacre – "Leonardo dreams of his flying machine, m. 1-8"*

The work reaches an unprecedented degree of dramatic agitation, evoking the most varied feelings, from the dream state to the tragedy of inner restlessness, from the joy of a fulfilled dream to the fervor of inner search. The musical discourse closely follows the meaning of the text and presents a wide variety of means of expression. The musical phrases and the form of the work being determined by the rhythm and meaning of the poetic text. The metro-rhythmic conflict given by the syncopation present at S-A-T-B, corroborated with the imposed accentuation of time 1 in measure 9 and the anacrusis motif, configures the **torment**, and the ternary drawing, exceptionally divided (triplets), suggests the **vision**.

The alto foreshadows the climax in measure 13, marking the riot of genius even more meaningfully, through the imposed accents, the augmented syncopation and the high register assigned to all the voices. The chromatic melodic drawing, predominantly ascending, reiterates the fall motif (descending line at tenor in 11 and 17). The melodic line suddenly changes to ternary, creating harsh sound planes, which foreshadow the ambivalence of the dream – wonderful/terrible (18-22).

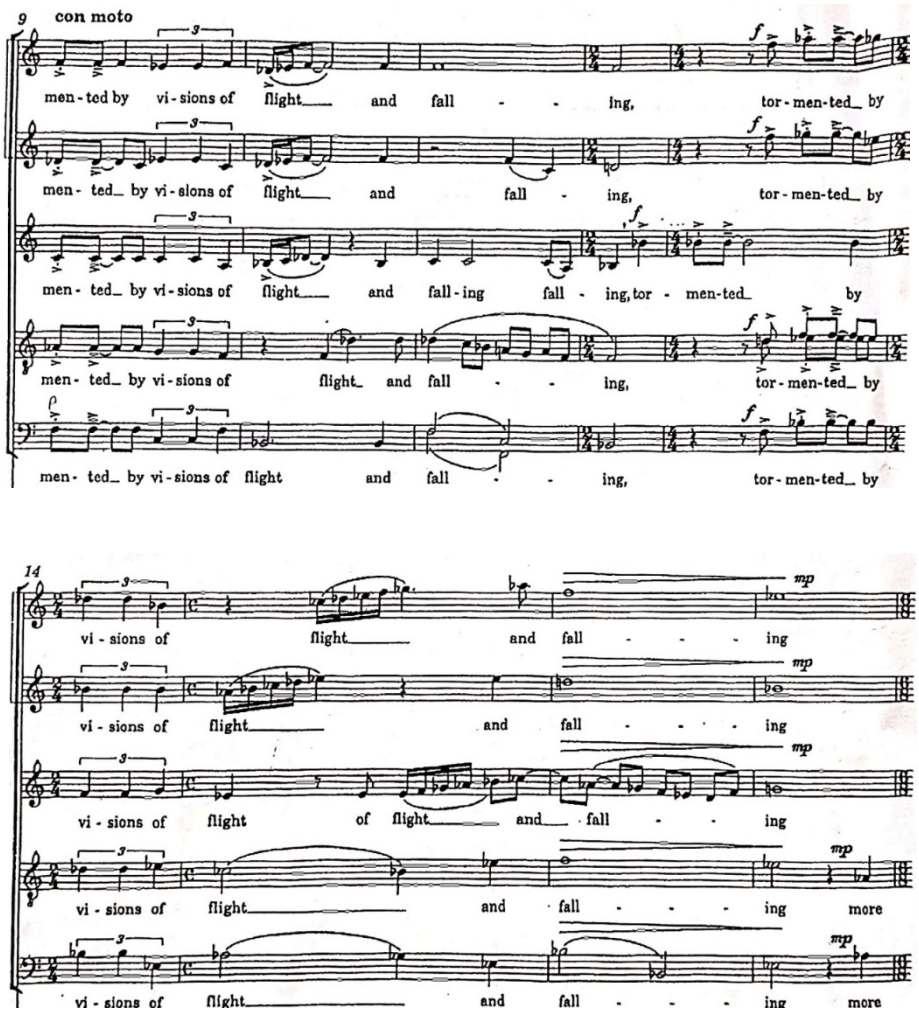

Fig. 2. *E. Whitacre – “Leonardo dreams of his flying machine, m. 9-17”*

The chordal mixtures, the mélange of harmonies and polyphonies guide in the dream the prototype of the flying machine, which, why not, could take man into the sun – an expressive moment suggested by refined chords (E flat minor – D minor – D major with sixth added in measures 23-31).

Immersion in the dream accumulates homophones and polyphones, tono-modal aggregates, with an impressionistic touch, leading suggestively to the ostinato – the daemon / siren (Soprano 1, 2), first whispered, and then increasingly intense (measures 39-43), embedded in the melodic march of the other voices. The melodic line is enriched and diversified through bilingual text overlays, widening of scope and rhythmic explosions that musically translate the prosody of the word – the fantasy of flight (41-51). The motivic type of Whitacre's creation merges unitarily and indivisible, thanks to harmony, timbre, dynamic and agogic elements. The conclusion – Leonardo dreams of his flying machine – comes, like the first time, in the context of a major chord – E flat this time – in measure 53.

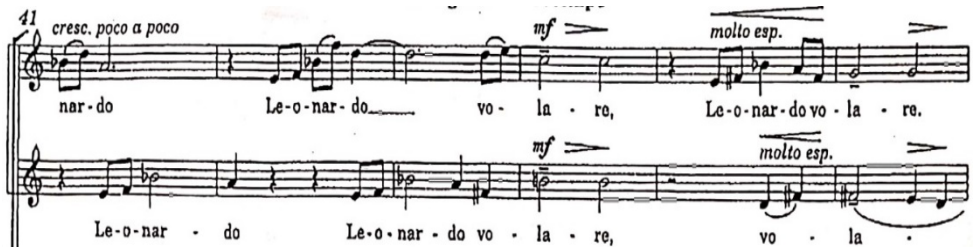

Fig. 3. "*E. Whitacre – Leonardo dreams of his flying machine, m. 41-46*"

The compositional syntax in the following measures (58-80) is a crowded structure of musical information, which oscillates between super-positional polyphony and homophony. Starting from the intensely chromatic atmosphere, which presents Leonardo as a creator of dreams, the polyphonic discourse is amplified in complex configurations, expressively suggesting the flight of doves towards the Tuscan sun. Thematic heads vary in length and are developed through free supra-positional imitations that alternate with homophonic chordal structures, anchored in frequent tempo changes.

The realm of the dream is reiterated by the ostinato of the daemon by a dynamic rhythmic-melodic drawing, with an architecture divided into two expressive planes: soprano, tenor, bass – the call of the daemon, and alto – the exposition of the creative struggles of the man Leonardo (81-92). The contrapuntal fusion of the

sound material in the form of a fugue, which brings us back to the universe of the Monteverdi’s madrigal, with elaborate rhythmic-melodic sections and sonorous contrasts, is diluted homophonically in the pose of the initial leitmotif – Leonardo dreams of his flying machine (93-101).

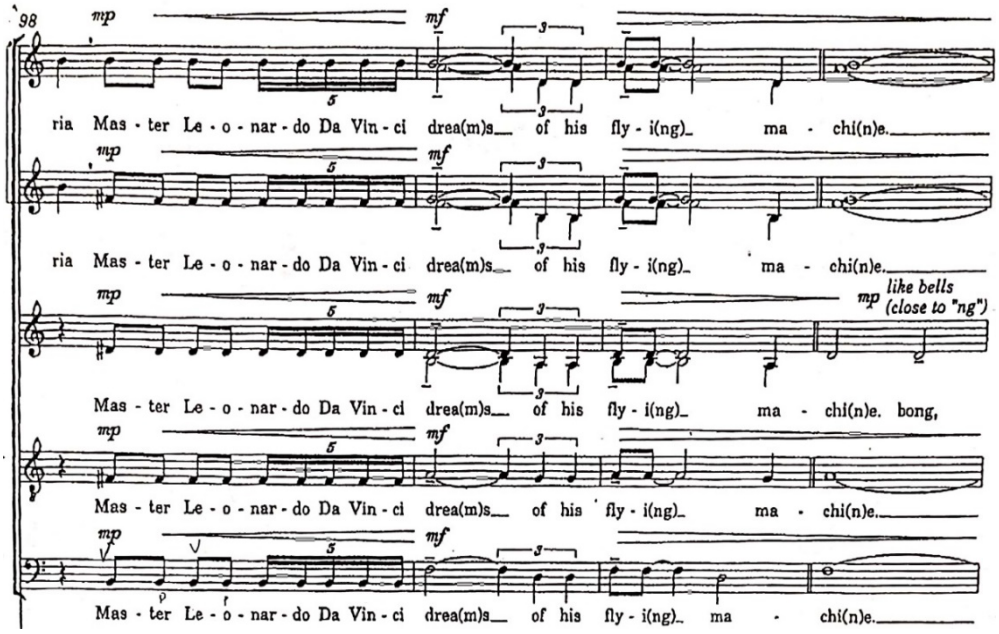

Fig. 4. “*E. Whitacre – Leonardo dreams of his flying machine, m. 98-101”*

The moment before the flight, with a general polyphonic character, gives the finale to the inner turmoil of the genius and is imposed as the most important moment of the piece.

The vocal writing sometimes uses unconventional types of vocal emission, specific to the untempered, microtonal intonation system (7, S1 solo), found among dynamic indications of crescendo and decrescendo from very low – ppp – to high intensities – fff, even sfz – (125-130). The syntax of choral writing consists of densely chromatic polyphonic and homophonic textures, harmonic aggregates, added sixth chords, up to the cluster sensation.

The flight (116-fine) consists of two parts and a buff intermezzo. The first part (116-145) is thought in A major. It begins (116-135) on a major chord, in direct mode, followed by a rhythmic pedal of eighths on altos 1 and 2. Soprano 2 suggests, through

a repetitive rhythmic pattern, the sounds produced by starting the machinery. This syncopated rhythm produces an interesting interplay of accents, contrasting with the binary divisional rhythm of alto voices 1 and 2. Beginning in bar 118, the sound structure changes, with the composer using a conjunct trichord scale in a low (pianissimo) sonority.

Male voices are added in the same measure, with untempered intonation, imitating air currents. From mark 123, the scale is amplified, turning into a conjoint tetrachord. Whitacre then adds a two-soprano solo 1 (125-128) accompanied by a rhythmic play structured on a cluster of seconds to the other female voices. From 129-131 measures, the composer outlines, in sfz, an A major with minor seventh and major ninth, thus creating a moment of maximum tension. What is striking is the contrast made between the opposite progressive types of dynamics in female and male voices. The section builds tension until bar 135, when it turns into a quasi-sacred dance on a rhythmic structure presented by male voices and tambourine (Johnson 2009, 50).

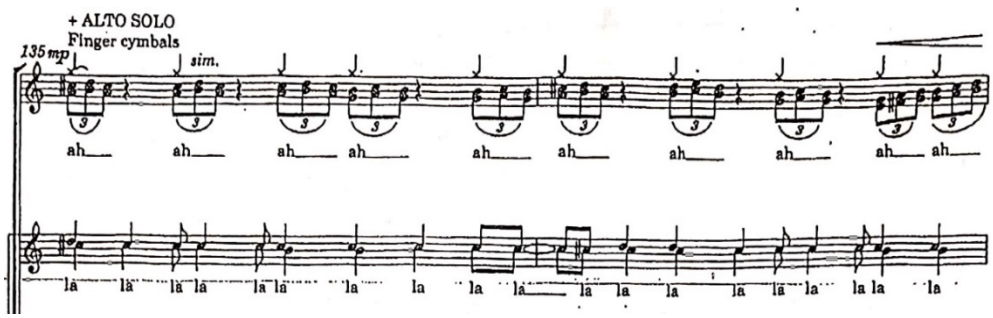

Fig. 5. *E. Whitacre – Leonardo dreams of his flying machine*, *m. 135-136* (S1+S2)

The baritone solo built on a descending melodic line (154-155) repeats the words "Leonardo volare". The absence of the modifying verb, "vieni", should be noted here. This intentional omission, along with the use of the infinitive "volare", serves to intensify the idea of flight. It does not matter if Leonardo flew physically, somatically. It is certain, however, that Leonardo flew metaphysically, spiritual liberation being the absolute form of flight.

4. Cryptographic tonalities in the score

It is known that Leonardo da Vinci was a true master of cryptography and this is not hidden from Eric Whitacre. So we asked ourselves the question: is Eric, in fact, Leonardo? Why would we not look for some kind of musical ciphers in the score?

Whitacre’s score is not designed in a specific and uniform tonality, but certain tonal centers can be identified. As Leonardo created by Silvestri and Whitacre is a dramatic hero, not a historical re-enactment, his main function is to evoke deep emotions (on the widest possible palette) in the audience. Consequently, we decided to trace the important tonal centers from the end to the beginning (an idea inspired by da Vinci's “mirror” writing) and – keeping the proportions – to relate them to Schubart's theory of the emotional significance of tonalities[5].

In this sense, we found that the three supernatural calls addressed to Leonardo (“Leonardo, vieni a volare”, 150-fine; 85-92; 38-46) and the second narrative describing Leonardo's response (102-115), which climbs the tower to plunge into the void and fly, have as their tonal center D major, suggesting triumph, joy of victory, paradisiacal joy. It is the tonality in which established composers have integrated sacred texts, such as *Alleluia* or *Gloria*, or conceived triumphant hymns.

We noticed, then, that the first part of the Flight (116-145) has A major as its tonal center. Beyond being a key akin to D major, A major suggests fulfillment, absolute trust, belief in divinity. On a literary level, the supernatural requires Leonardo to take a “leap of faith” (116) in order to fly. The music masterfully renders this image.

The second narrative begins with a passage (58-65) whose tonal center is d# minor, suggesting anxiety, detachment, hesitation. The text shows Leonardo, early in the morning, by the light of the candles going out, preparing to release the pigeons to watch their flight. Silvestri mentions that he is very attached to this dramatic picture of the release of the doves. The tonality seems to describe Leonardo's compassion for captive birds. In this passage, the two authors suggest that the pigeon in the cage is da Vinci's alter-ego.

The narrative then describes the pigeons being released one by one. Musically, the tonal center becomes B major (67-70), the tonality of stormy passions, of sentimental tumult caused by liberation and flight. Following the movement of the wings, Leonardo is engulfed by the frenzy of flight. The composer modulates (71-75), then, to reach, at the end of the section, a chord of G major, a lyrical, idyllic tonality, which musically dresses the word “sunrise”.

[5] https://wmich.edu/mus-theo/courses/keys.html

And, finally, we come to the first narrative. It has as tonal center F minor, suggesting torment, agony. For example, Vivaldi designed his Allegro parts from the fourth, hibernal part of the Seasons in F minor. The opening literary narrative presents Leonardo "tormented by visions of flight and falling".

5. Ciphers instead of conclusions

Whitacre's score contains certain key moments that are not discernible on a first hearing or reading. We will reproduce the most interesting ones below.

The word Leonardo in the beginning of the piece contains, on the syllable – do, a chord of C major. The expression "flying machine" ends, musically, on a major chord, suggesting the fulfillment, the achievement.

The word "flight" or the phrase "one by one", which refers to pigeons, suggest, musically, flight, through short, consecutive notes arranged in ascending order. It is possible that Whitacre is playing with the homophony of "by" (preposition) and "buy" (verb), suggesting not only the flight, but also Leonardo's obsessive acquisition of pigeons, both out of compassion and a compelling desire to scientifically observe the movement of the wings in flight.

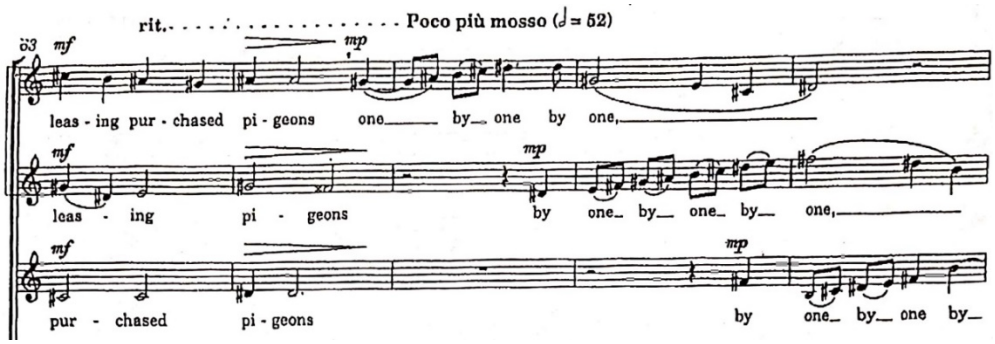

Fig. 6. *E. Whitacre* – "*Leonardo dreams of his flying machine*, *m. 63-67*"

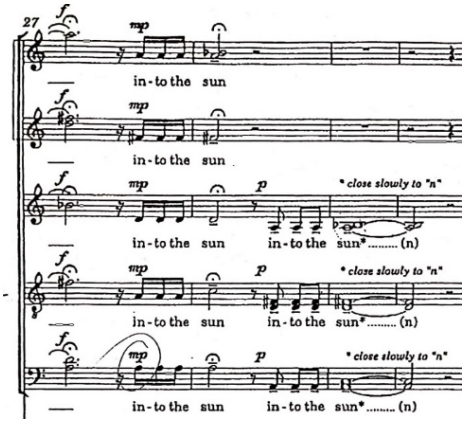

Fig. 7. *m. 27-29*

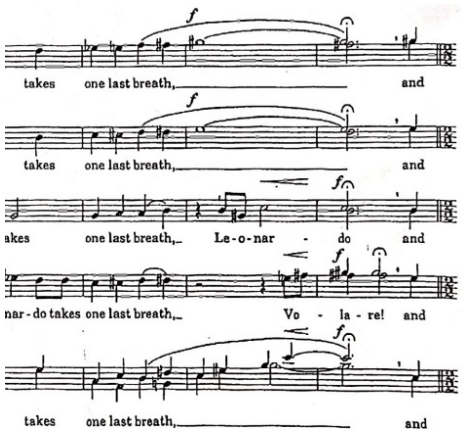

Fig. 8. *m. 113-115*

The D major chord with seventh and added minor sixth (28), which cloaks the word “sun”, is resumed an octave lower in the next measure. This artifice suggests falling from flight and seems a reference to the myth of Icarus. Leonardo is tormented by Icarus’ failure and his falling from the sky. Measures 41-46 suggest the siren’s “honeyed” song, as Homer put it. Whitacre probably knows that only 2 sirens tempt Odysseus in the Homeric poem so he enrolls Soprano 1 and Soprano 2 for the siren song. Leonardo's name is called 7 times, a number with a wide semantic spectrum.

In the measures 84-97, Whitacre hires dense polyphony to suggest a spatial-temporal vortex. Silvestri creates this effect on the literary level as well, by interspersing the English narrative with Da Vinci’s Italian words from the flight treatise. In measures 101-107, alto imitates, through specific sounds, the tolling of the bell.Whitacre musically speculates on Silvestri's gorgeous metaphor. Midnight is likened to a watchtower that, by ringing bells, announces Promethean triumph of flight: Leonardo doesn’t fly for him, but for humanity. His machine is a promethean gift for man. In measure 115, Whitacre brilliantly places a general breath, which imitates Leonardo's last breath right before his “leap of faith”. Musically and literary, the passage, like the entire third section, is full of meaning. The playful element in measures 146-148, Whitacre's transformation of “sognare” into “sogna hahaha re”, can be interpreted as the Leonardo’s joy of the fulfilled dream of flight, or as the malicious laughter of the sirens revealing their monstrous side.

The end of the score is open to interpretation. Although he stops at measure 155, Whitacre recommends a repetition of the motifs from the previous measures and a gradual transformation into onomatopoeia imitating the wind.

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