Compulsory figures

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1. Impetus

Inspiration is often the result of an interaction between the outside world and the composer's inner experience. It may be unexpected and ephemeral, but it can also be the result of a gradual growth, one that reveals itself progressively or by twists and turns. The source of inspiration may lie in sensory phenomena (looking at an object, a landscape, a work of art, hearing sound or music, etc). It may be the result of a psychological state (a feeling, an atmosphere). It may be the result of an intellectual approach (the desire to explore a given aspect or technique in music) or perhaps it may arise out of experiences that the composer has undergone. Sometimes the initial cause remains a secret, buried deep in memory or in the unconscious of the creative person. At other times the initial cause will be revealed by the composer, or by other witnesses. There are famous historic examples such as Tartini's dream, which preceded the composition of the "Devil's Trill" Sonata, or the "Resurrection" chorus that was sung at von Bülow's funeral, and which inspired Mahler when he composed his Second Symphony. Reynolds gives the name of "impetus" to this kind of jumping-off point "out of which the whole can spring and to which, once composition has begun, the evolving whole is continuously made responsive, even responsible"[1]. The impetus acts as a guide, a stimulus that helps the composer throughout the creative process. Etienne Souriau identifies "the questioning power of the work to be created", calling it the "angel of the work", in the way that the latent composition asks questions of its creator, questions that guide and inspire him or her.[2]

In the case of *The Angel of Death*, the main impetus lay in the opportunity to carry out a new musical experiment, as well as to take part in a human and scientific adventure. *The Angel of Death*, in addition to its specifically artistic goals, was designed to lend itself to a set of laboratory and concert[3] experiments in order to test various hypotheses regarding the way we perceive music. The study most notably focused upon the classification and recognition of thematic material, the effects of instrumentation, the perception of the internal structure of themes, emotional response to large-scale forms, etc. It represents a unique event in the history of music as well as that of the cognitive sciences, one that was closely observed by psychologists and musicologists, almost on a step-by-step basis. They were provided with the opportunity to closely follow the process of composition, starting from the initial ideas sketched out on paper in 1998 all the way through to the work's premier on June 6 and 7, 2001 at the Georges Pompidou Center in Paris. The sketches, the formal plans and diagrams, the interviews with the composer, the stimulus sources that were specially constituted for the experiments, the experimental data, together make up a body of source material that can be consulted, analyzed and commented upon

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[1] Roger Reynolds, *Form and Method: Composing Music*, edited by Stephen McAdams, New York and London, Routledge, 2002, p. 8.

[2] Etienne Souriau, *Vocabulaire d'esthétique, [Aesthetics Dictionary],* edited by Anne Souriau, Paris, Presses Universitaires de France, 1990, p. 118.

[3] During the June 2001 world premier at Ircam and subsequently in April 2002 in San Diego.

for several years to come.[4]

When musicologists face a new work, what "impetus" might guide them in their analysis? The motivating factors may be highly varied: aesthetic, historical, theoretical, analytical, technical, etc. *The Angel of Death* lends itself to a large number of approaches because it is rich in music and in meaning. Francois Madurell and myself chose several angles of approach, represented in several musicological articles dealing with the work.[5] The analyses that we carried out cannot claim to be exhaustive, but they do offer an interpretation of the work and of the project from various angles. Musical analysis, which is interpretive, does not set out to explain the composition, but seeks rather to tease out various possible types of meaning without betraying the spirit of the composition. To interpret is not to explain, but to seek out interconnected chains of meaning that complete, echo and answer each other.

The approach chosen in this article is of an aesthetic and hermeneutic nature. It is the result of decisions arrived at by the composer before starting out on the process of composition, decisions made together with the psychologists. Certain choices concerning the number of instrumentalists, the material and the form of *The Angel of Death*, were made with certain experimental realities in mind. These decisions in no way affect Reynolds' paternity of the work, but they did impose upon him certain constraints. He worked within these constraints in such a way as not to compromise his own aesthetic goals. This adds interest to the piece. Firstly, certain initial decisions were foreign to Reynolds' working methods, allowing us to observe how the composer managed to integrate them into his own musical world. One example is the way in which the use of certain formal structures more typically associated with traditional Western music (theme, transition, development and re-exposition) could very well have ended up making the composition sound unadventurous, not to say backward looking. In fact they pushed the composer to respond to them as a challenge. In addition, some of those choices closely resemble (or are parallel to) fundamental underlying preoccupations of music of the second half of the 20th century — even though this was by no means the intention at the time the decisions were made. To take one example, the question of the return (of the thematic material) or the repeat (of a section) at different times in contemporary musical history gave rise to totally different responses. It is interesting to see how the composer dealt with these problems in the context of his own personal style. Those initial choices, defined by experimental necessity, were in a manner of speaking, "compulsory figures"[6] — and Reynolds had to live with them. Three of these compulsory figures will serve as our guiding thread:

1) the main musical material, made up of five "themes", played alternately by the piano and the instrumental ensemble;

2) the two parts *(Sectional* and *Domain)* making up the entire composition, different in nature but carrying the same thematic material;

3) the absence of a pre-established order in which to play the two parts — the piece may be played in either of two versions (S-D or D-S).

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[4] Reynolds preserves all his archives, and the numerous notes made in the sketchbooks, which are dated. He takes care to copy all the sketches, diagrams and pre-compositional developments. In addition Stephen McAdams has recorded a considerable number of hours of interviews concerning specific aspects of the compositional process, and in these interviews Reynolds explains a certain number of decisions that were taken in the course of composition. (S. McAdams, "Problem-solving strategies in music composition: A case study", *Music Perception*, 21, 391-430, 2004).

[5] See the other articles in the analysis stream of this e-book.

[6] Reynolds accepted these constraints and then had to live with, compose with them.

2. Contradictions

In *The Angel of Death*, a piano and a small instrumental ensemble alternately play the musical material. Does this mean that the piece is like a concerto? The concerto genre, right from its origins in the 17th century, created a relationship between a soloist (or several soloists) and an instrumental ensemble (or an orchestra). From the 18th century on, this genre was one of the main expressive tools open to virtuosos, and had a certain affinity with opera. The concerto crystallized into a conventional form in which the opposing relationship between the soloist and orchestra is resolved in a final coming together, analogous to tonal relationships in the sonata form. In the first half of the 20th century, although it did not completely fall into oblivion, the genre lost much of its attraction and became the refuge of composers with a conventional style. But the concerto also inspired such composers as Schoenberg, Berg, Webern, Hindemith, Bartók and Stravinsky. Its operatic and virtuoso nature, which had made it so successful a genre in the Romantic era, was what caused it to be rejected by avant-garde composers in the Fifties. However, as a genre it has survived until the present day, not without having undergone some surprising mutations. Just to mention a few examples taken from the repertoire of the solo pianist, the concerto was turned into an antiphony of cadenzas and orchestral tuttis in Messiaen (*Réveil des oiseaux*, *Sept Haïkaï*, etc.), and became a fusion of textures and timbres in Feldman *(Piano and Orchestra),* it took the form of pianistic gestures that are absorbed and fragmented by the orchestra in Lachenmann *(Ausklang),* whereas in the work of a composer like Carter it goes through a process of individualization and independence between the piano and the orchestra *(Concerto For Piano).*

Reynolds did not approach the concerto until relatively late in his career. So far he has composed eight *concertante* type pieces. *The Angel of Death* is the most recent as of this writing.

Table 1. List of *concertante* type pieces by Reynolds

		Soloist	Tutti	Electronics	Duration
Transfigured Wind II	1984	Flute	Orchestra	4 channels	35.5'
The Dream of the Infinite Rooms	1986	Cello	Orchestra	4 channels	24'
Personae	1990	Violin	Ensemble	2 or 4 channels	26'
Watershed III	1995	Percussion	Ensemble	Real-time spatialization	31'
Elegy – for Toru Takemitsu	1996	Flute	Strings/percussion		7'
Will you answer if I call?	1998	Harpsichord	Small ensemble		8'
On the Balance of Things	1998	Oboe	Small ensemble	2 channels	24'
The Angel of Death	2001	Piano	Ensemble	6 channels	34'

In the above pieces, with the exception of *The Angel of Death*, the soloist is the main protagonist. He or she not only presents the material, but also totally determines the landscape of the piece and drives the dramatics. The soloist feeds the instrumental ensemble and the electronics part (where applicable). The relationship between the soloist and orchestra is not so much dependent on traditional dialogue as it is upon a soloistic proposition, which is then taken up by the orchestra and the electronics, each according to its own idiom. In *Personae* for example, the relationship between the soloist, the ensemble and the electronics lies on the plane of reflection or refraction, what we might call the game between Narcissus and Echo.

On the face of it, the relationship between the soloist and orchestra in *The Angel of Death* is neither obvious nor easy. For a start, we might wonder which of them is the main protagonist, the piano or the ensemble? In accordance with the decision taken in common between the composer and the research psychologists, the five "themes" are alternately presented by the piano

and the orchestra, in both parts of the composition[7]:

> *Sectional:* T1 (piano), T2 (ensemble), T3 (piano), T4 (ensemble), T5 (ensemble)
>
> *Domain:* T1 (ensemble), T2 (piano), T3 (ensemble), T4 (piano), T5 (piano)

In addition it must be pointed out that the material was composed with a certain neutrality as to instrumentation. The composer had to work within specific constraints for the piano and for the ensemble. On one side, there is the virtuoso, the purely gestural, the flowing character of the writing for piano, and on the other side the possibilities of coloring and texture diversification provided by the orchestra. Both, in their own way, had to be limited. Theoretically speaking, there was no reason to make either protagonist more important. *The Angel of Death* departs from the traditional concerto form, in which the virtuoso soloist is the principal element, the prime provider of propositions. The orchestral tutti has to respond to these propositions.

However, the formal structure of the piece is much more than a simple alternation between five themes. Outside elements come into play: there is a section entitled *Other* as well as a certain number of regions whose function is to set up links of varying closeness with the thematic material (transitions, combinations, stratified *ostinati — RepStrat —*, interlude, and epilog). There is also separation and alternation in the way the material is presented, although this is not as systematic as had been originally planned. In the final score, the *Other* and *Interlude* sections break away from the law of alternation, and are played only by the piano. In addition, the ensemble discreetly reinforces the piano whenever it exposes a theme and vice versa. In fact, the relationship between the piano and orchestra differs according to whether it is the *Sectional* or *Domain* part that is being played. Instead of a single type of relationship, *The Angel of Death* generates a specific way of handling the concerto genre.

The plan of the *S* part (Figure 1) shows how the material is alternately distributed between the layers of the piano and the instrumental ensemble.

Figure 1. Diagram for the *Sectional* part[8]

Reading the score and listening to the piece somewhat offsets the antiphony-like impression that the diagram might convey. Rather, there are two layers, and the balance between them is constantly changing. Overall, the piano dominates the first part of *S,* up to and including *Other.* This zone, the only long passage entirely given over to the soloist, constitutes a kind of threshold beyond which the relationship between the two protagonists is reversed. After *Other,* it is the orchestra that dominates the second part. As a result, the piano is totally absent from Themes 4 and 5, and its presence in the TR2/4 transition is very discreet.

The *D* part is given over to a different kind of relational logic. Whereas the elements of *S* all have clearly marked borders, those belonging to *D* are less defined in time, and interlock and overlap to a greater extent. The writing in *D* is conducive to fusion and heterogeneity. The themes are never clearly realized by the piano or the orchestra. Only the core elements of each theme (in gray in Figures 1 and 2) preserve their identity (in spite of the change in

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[7] Reynolds uses the term "theme" as a shortcut for "thematic material", in the sense of each of those elements possessing its own characteristics (temporal proportions, pitch, texture, density, etc.), which give them unity. Nevertheless the duration of the themes makes them more like sections. But for purposes of clarity we will use the term "theme".

[8] The themes are shown by the letter T; CB 2/4 indicates a combination of elements from Themes 2 and 4; TR1>3 indicates a transition based on material from Themes 1 and 3; *RepStrat* indicates a layered repetition of various ostinato-type elements. Each section is bordered by a box. Inside the five boxes that represent the "themes", the central gray part corresponds to the core element of that theme, a kind of focal point. The dotted zones represent passages in the second layer that reinforce or accompany the main part.

instrumentation). The relationship between the soloist and the ensemble is thus much more symbiotic, even if the two layers do still exist.

Figure 2. Diagram for the *Domain* part.

The writing in Domain is less *concertante,* and closer to the Takemitsu piece *Riverrun* (1984) for piano and orchestra. The passages that are played exclusively by the soloist, especially *Other* and *Interlude,* give the impression of being an island in the middle of an ocean. Each part of *The Angel of Death* thus offers an alternative version or reading of the concerto genre.

In addition to the relationship between soloist and orchestra, there is another element considered to be typical of the concerto: the soloist's cadenza. In the classical and romantic concerto, the cadenza is placed at the end of the re-exposition in to order prepare the coda. This does not happen in Reynolds' pieces. Although it might be argued that *Other,* a long solo passage, is a kind of cadenza equivalent, in fact it has little in common with a cadenza. It does not borrow thematic material, nor does it display ostentatious virtuosity. Moreover, it is situated right in the middle of the section and therefore cannot fulfill the typical cadenza function, that of announcing the end of the piece. So *The Angel of Death* cannot be considered to be a concerto.

The piece does away with the hierarchical relationship — typical of the Romantic concerto — between the "lordly" soloist and the orchestra. Instead it offers worlds that are parallel but not opaque. *The Angel of Death* lies somewhere between the concerto for soloist and the concerto for orchestra. The relationship between the soloist and the orchestra is not unilateral, but changes according to whether it is in *S* or *D*. In S, the relationship unfolds in the context of an unstable equilibrium between the two layers. In D, it flows into an ocean of symbiosis, from which islands occasionally rise up. In S, the piano is in a manner of speaking, *outside* the ensemble, whereas in D it is *inside*. Thus the composition offers two distinct ways of perceiving the concerto genre, in accordance with the double etymology of the word, between *concertare* (to struggle, to rival) and *consertare* (to unite, to make up an ensemble). This difference in relationship between soloist and ensemble has consequences for the way the piece is perceived. In *S*, the soloist has to focus the listener's attention in such a way as to be a point of reference, whereas in *D,* the soloist is no longer the main referent. By contrast, a much more powerful pull has to be generated when the soloist appears alone in *Other* and in *Interlude*.

3. Transition 1

As we mentioned earlier, the impetus behind *The Angel of Death* was the desire to set up a new experiment that would allow an insight into both the compositional process and the way the music is perceived. Reynolds is not new to collaboration with psychologists, and questions surrounding musical perception have always been of the greatest importance to him. [Lien vers article Spécificités esthétiques, paragraphe 6]. However there was another "originating impetus" driving the composer, on a rather more personal level. At the time when he began early sketches for the piece, Reynolds was greatly affected by the serious illness from which his friend and colleague Xenakis was suffering. The deaths of Takemitsu in 1996, Martirano in 1995, Cage in 1992, Feldman in 1987 were still fresh in his mind. This set of circumstances lead him to reflect on death, on fate, and on the respite from fate, all ideas that are present in the formal construction of *The Angel of Death*.

Reynolds makes mention in his sketchbook of the Etruscan civilization that was entirely

built on the notion of fate, a notion that in fact brought about its downfall.[9] For the Etruscans, the life of each human being was divided into 12 seven-year cycles. After a period of 70 years, the human being became the plaything of fate, and at the age of 84, changed into a "living dead person" whose soul was separated from the body. This was the Etruscan way of totally integrating death as an inevitable component of life, even if it was in a somewhat disproportionate manner. All life is destined to die, no matter what has been accomplished or whether its journey is done: this is the idea Reynolds wished to convey in *The Angel of Death*. Whatever the version chosen, *S-D* or *D-S,* the electronics always appear in the second half of the piece. The electronic sounds, a metaphor for that angel of death sounding his death knell, spreads out like a shadow or a cloud over the instrumental part. The entry of the electronics at the end of the first section has a certain dramatic significance, and greatly modifies the listener's perception of material heard up to this point. [Lien vers article Other(s), paragraphe 1].

Reynolds mentions the Asklepios myth as containing the idea of respite, of the second chance, of an unhoped-for escape from death.[10] According to mythology, Asklepios learned the art of creating remedies from the Centaur Chiron. Soon he became so good at it that he not only managed to cure sickness, but could even revive the dead; Glaukos, Tyndarus and Hippolyte, in particular, owed their lives to him. In Antiquity Asklepios was given divine honors, and many were the sick, the blind and the lame who came to his sanctuaries, most notably at Epidaurus, begging to be cured or at least relieved of their suffering. Asklepios would then appear to them in a dream and tell them the name of the appropriate remedy. His main emblem was the serpent, a chthonian symbol, as well as an image of renewal, since the serpent grows a new skin each year. In *The Angel of Death*, the form of the composition makes it possible to hear the material again but without the fateful inevitability of the double barline: the material is transformed, it too has shed its skin. The listener travels the same musical landscape afresh, but this time in the light of preceding experience.

Thus, the overall form of *The Angel of Death* is a reflection of the opposition between the notions of fatality and alternation. The entry of the electronics signifies not only an alternative to death, but also the opportunity to relive the musical experience. It brings with it the awareness that nothing more than a respite has been gained. The merciless, inexorable way it unfolds in the course of the second half is essential to a full understanding of the piece. However, the alternative accompanied by an additional one: the two parts may be sequenced in two different trajectories. There is no set order for *S* and *D,* and two performances are possible: S-D or D-S. The piece may even be heard in both versions at the same concert (as at the premier).[11] This raises an unexpected question: is *The Angel of Death* a work in progress, an *opera aperta*, an "open work"? If so, what kind of opening does the alternation suggest?

4. The *transmogrified* or "shaken-up" meaning of *The Angel of Death*

[9] The Etruscans believed that the universe was to last for 12,000 years. The Etruscan nation was to last for 10 centuries. Natural catastrophes, epidemics or extraordinary events were considered as divine manifestations marking the start and the end of each period. These fatalistic beliefs provide an explanation of the Etruscans' attitude at the end of their civilization: their destruction was inevitable and had always been foreseen. It was useless to try and change destiny.

[10] Coronis, the mother of Asklepios, was unfaithful to her divine lover Apollo with a mortal named Ischys. When Apollo learned of his lover's unfaithfulness, he killed her. But just as the body of Coronis began to burn in the flames of the funeral pyre, the god, out of remorse, ripped his living son from the mothers womb, and entrusted the child to Chiron.

[11] At the Paris premier, the two versions were separated by Reynolds' electroacoustic piece *Versions/Stages*, and by an intermission.

Open form, not to be confused with indeterminacy, has given rise to countless debates between composers and musicologists. There are as many definitions of the openness of a musical work as there are compositions flying under that particular aesthetic flag. What indeed do Boucourechliev's *Archipels* and Boulez' *Third Sonata* have in common? The former sets out to control virtuality, to create "not all possible forms, but to predict what will be the behavior of a structure that has been entrusted to a free and responsible performer".[12] The latter by contrast attempts to bring into play a "problem-studded path as a function of time, a certain number of aleatoric events inscribed in a variable duration that nevertheless has its own logic of development, and its own global direction...".[13] The first proposes a latent structure that has no true beginning or end; the second imposes a precise formal trajectory in a finished structure that *does* have a beginning and an end. The *finished* character of an *infinite* form stands opposite the *unfinished* character of a *finite* form. What all open work aesthetics finally have in common is that they call on the freedom of the performer. As Umberto Eco has suggested, at the beginning of his book *Work in Progress,[14]* it is a matter of discovering new dialectics between the work and the performer: "We are no longer in the presence of compositions needing to be re-thought and re-lived along given structural lines, but rather *open* works generated by the performer from the moment that he accepts the role of mediator". Nevertheless it has often been pointed out that this kind of "openness" is apparent only to the composer and to the performer, unless several versions are played in the course of the same concert.

So according to Eco's definition, *The Angel of Death* is not a work in progress or open work since it only offers two possible permutations (S-D versus D-S). Apart from certain personal choices, the performer has no additional interpretive possibilities. Nevertheless Reynolds' composition does contain an open character that is more *aesthesic* than *poïetic*. The open character of *The Angel of Death* lies more in the realm of perception. It is close to what Roland Barthes calls "availability". "To write," he says, " is to shake up the meaning of the world, to interrogate it *indirectly*. Then, instead of answering it, the writer leaves a last ellipsis. The answer must be given by each and every one of us, contributing our personal history, personal language, personal freedom. But just as history changes infinitely, so do language and liberty. And in the same way, the writer's response to the world is infinite: we never stop answering questions that were never asked: meanings are proposed, then opposed, then replaced — but the questions remain".[15] For Barthes, true openness resides in the confrontation between the artistic work and the world, between the artistic work and time and history, in the innumerable "interpretations" that are possible as soon as the work is perceived. However not all works possess such "availability". In order for availability to be present, the work must "truly possess a form, a transmogrified or transmogrifiable meaning, not a closed or fixed meaning..."[16] The open character of *The Angel of Death* lies in the relationship between the two types of writing used in *S* and *D*. Freedom is afforded by the twin character of the two parts, made up of the same thematic material presented in identical chronological order. This structural "twinness" offers a kind of perceptual crossover space, which can continuously generate new listening dimensions. *The Angel of Death* possesses the *transmogrified* meaning that makes it an open work.

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[12] André Boucourechliev, interview with François-Bernard Mâche, *La Revue Musicale*, special issue, "Les mal entendus", 314-315, 1978, p. 44.
[13] Pierre Boulez, *Relevés d'apprenti*, Paris, Seuil, 1966, p. 52.
[14] Umberto Eco, *L'œuvre ouverte [Operta aperta, 1962]* Paris, Seuil, 1965, p. 16. English translation by Anna Cancogni, Harvard University Press, 1989.
[15] Roland Barthes, *Sur Racine*, Paris, Seuil, 1963, p. 11.
[16] Ibid.

5. A Detour

A detour now appears relevant in order to understand just how *The Angel of Death* fits into Reynolds' compositional path. Very early on the composer enjoyed a privileged relationship with France (as well as Japan). The many visits he made to Paris gave rise to compositions that were either written or premiered in France. Four of them — *Fantasy for Pianist* (1964), *Archipelago* (1982-83), *Odyssey, an opera in the mind* (1989-93), *The Angel of Death* (1998-2001)[17] — all possess particular importance because they represent a breakaway, a new direction, or level of maturity in the composer's career. A brief presentation of the first three will help us better understand the place of *The Angel of Death* in the composer's work.

Reynolds lived in Europe from 1962 to 1966, and more particularly in Paris from 1963 to 1964. During this time he wrote the vast 17-minute *Fantasy for Pianist* (1964) an extremely elaborate composition, contrary to what the title might suggest. This virtuoso piece shows a powerful imaginative faculty for creating textures and instrumental color. The textures are inspired by four photographs showing a complex intertwining of vine stems and branches on a background of snow. Surprisingly, Reynolds was to use this principle again 20 years later — creating musical texture from graphical data — when composing the electronics for *Ariadne's Thread* (1994) in the UPIC Studios[18]. Reynolds' interest in writing for the piano has never died out, as is shown by numerous solo compositions, from chamber or orchestral music in which the piano has a major role to play starting with a composition such as *Epigram and Evolution* (1960) for piano solo all the way to *A Crimson Path* (2000) for piano and cello, premiered at the cello ensemble encounters in Beauvais.

Reynolds spent 1981 to 1983 at Ircam as resident composer. During this period he composed *Archipelago* (1982-1983) for 32 instruments and computer-generated sounds. It was an important stage in Reynolds' approach, a kind of laboratory where he could experiment with a certain number of compositional techniques. The very considerable effort needed for conceptualization gave rise to numerous innovations in his formal approach, (e.g. the way he recast the variation form) or, for example, in the conception of the electronics (re-synthesis, phase vocoder processing, temporal processing with control algorithms, advanced spatial composing etc). During the same period, he also carried out research on timbre perception. Using Stephen McAdams' work on micromodulations, Reynolds was able to create striking effects built on a fragment of re-synthesized oboe, subsequently applied to other instruments in the piece.[19] Many compositions owe a debt to the experiments carried out with *Archipelago*. Thus, such pieces as *Transfigured Wind* I to IV (1984) and *The Behavior of Mirrors* (1985) for guitar derive their formal structure from *Archipelago*. Other compositions delve deep into the notion of the interpretive variation such as *Vertigo* (1985) or *The Vanity of Words* (1986) — two electroacoustic compositions that use material recorded in public. In a more direct line of descendancy there is *Autumn Island* (1986) for marimba and *Summer Island* for oboe and computer-generated sounds. These two pieces have in common, in addition to the material and certain computer processing derived from *Archipelago,* the virtuoso approach to the instrument.

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[17] *Archipelago*, *Odyssey* and *The Angel of Death* were all commissioned by Ircam.

[18] UPIC: A studio set up originally by Iannis Xenakis to exploit his special sound synthesis system known as the *Unité Polyagogique Informatique du CEMAMu.*

[19] Vibrato functions with separately evolving speed and depth were independently applied to groups of partials. When the spatialization was carried out, the odd partials were placed in the left channel and the even partials in the right channel. When the vibrato functions applied to the even pair comes into play, the listener has the impression that a woman's voice in the upper octave is arriving from the right-hand side, and subsequently, when the of the odd partials come into play, the impression that a clarinet is coming in from the left.

The instrumental techniques developed for *Summer Island* were later used in *On the Balance of Things* (1996-98) for oboe, ensemble, computer-generated sounds and optional choreography premiered at the Cité de la Musique in Paris in 1998.

Odyssey, an Opera in the Mind (1989-93) for mezzo-soprano, baritone-bass, 16 instruments and computer-generated sounds represents another important stage in Reynolds' approach. It marks the fruition of research carried out on language, and on the voice and space, along the same lines as the *Voicespace* cycle begun in 1975. [Lien vers l'article spécificités esthétiques, paragraphe 3]. It further provided an opportunity to carry out large-scale testing (the piece has a duration of 1 hour and 15 minutes) of the new formal research initiated in the short composition *Dionysus* (1990). Reynolds used chaos theory to generate an even greater degree of unpredictability than with proportions drawn from logarithmic numerical series: [Lien vers Spécificités esthétiques, paragraphe 5] "What was needed was a source of authority for more unpredictable, even apparently eccentric behaviors. 'Chaotic' phenomena offered such potential".[20] He used a forked bifurcation diagram (Figure 3), which in the theory of chaos is used to demonstrate the behavior of populations endowed with varying degrees of fertility.[21] When the system becomes chaotic, at unpredictable moments, clarification suddenly occurs. Then the values once more begin to increase, and just as suddenly, chaos returns. Thus the system gives rise to a process of self-imitation in which overall behavior is repeated at a lower or more local level. Reynolds is not seeking to carry out a direct transposition of these scientific concepts into music, but is rather looking for a means of generating a set of values to establish the proportions underlying a formal aesthetic. The "chaotic" formal proportions in *Odyssey* serve Beckett's expression and text form very well: "...my way is in the sand flowing between the shingle and the dune..." [22]

Figure 3. Bifurcation diagram (J. P. Crutchfield and N. Sterngold)

In spite of its specific character, *The Angel of Death* has several characteristics in common with the above-mentioned compositions. The techniques and the stylistic elements of the piano are partly drawn from *Fantasy for Pianist.* Certain variation and material structuring processes, as well as the idea of collaborating with research psychologists, originate in *Archipelago.* The self-imitation relationships of the formal structure and the forked principle, as well as that of situation reversal come from *Odyssey.* Each of these four compositions in its own way bears witness to Reynolds' unfailing interest in the question of the repetition and transformation of compositional material, as well as their psychological equivalents, perceptual

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[20] Roger Reynolds, *Form and Method: Composing Music*, edited by Stephen McAdams, New York and London, Routledge, 2002, p. 27.

[21] The diagram in question shows how a parameter variation — in the present case, the population surge and the resulting overpopulation of an animal group — would modify the final behavior of a simple system. The initial forks give rise to periods of 2, 4, 8, 16, etc. Then chaos takes over, with no regular periodicity. When the system is reinforced, odd periods appear. Certain regions, when enlarged, show a resemblance to the entire diagram.

[22] *my way is in the sand flowing*
between the shingle and the dune
the summer rain rains on my life
on me my life harrying fleeing
to its beginning to its end
my peace is there in the receding mist
when I may cease from treading these long shifting thresholds
and live the space of a door
                Samuel Beckett

variance and invariance.

6. Transition 2

The repeat, the return of the material, the playing back of a section, sprang up very early in Western musical history, be it vocal or instrumental dance music. From the very earliest vocal genres of profane mediaeval music onward, whose forms were generated by poetic structures, the repeat was present (notably in the rondo, the ballad or the virelai). In the 17th and 18th centuries, instrumental music repeats were enriched by improvised variations and doubles. The theory of musical forms, which appeared in the 18th century, demonstrated that the notions of exposition and of the repeat of one or several themes, of development and of variation (the last two implying a modified returning theme) were the foundation of the vast majority of Western musical structures (binary form, the rondo, the minuet, the lied, the bar, the variation, the sonata, etc.). From the 19th century onwards, a consequence of the evolution and subsequent erosion of the tonal system was the avoidance of recapitulations that were too identical to the original. Wagner's use of continuous melody in his operas is a striking example. Early in the 20th century, the repeat was rejected altogether, at the same time that atonal and athematic music appeared. In *Erwartung* (1909) by Schoenberg, the motifs are so short, and appear so fleetingly, and so closely resemble each other that they hardly register in memory. Wagnerian innovation culminated in the formal conception of *Erwartung,* i.e. continuous dramatic evolution. Webern drove the principle of perpetual variation even further. An example is *Variations for Piano* op. 27 (1936), in which exposition, repeat, and variation no longer exist at the surface level, but within the deeper structural layers of the work.

Following the Second World War, the musical avant-garde pushed the absence of repeats, as well as continuous development, to an extreme degree. There was a strong push to rethink musical phenomena entirely, to search for a language that no longer had its roots in the past. This led to the abolition of the formal principles of tonal music: repetition, themes, tonal functions, directivity, etc. The deconstruction of form echoed the deconstruction of material. The idea of a perpetually renewed and generated form, devoid of predictability, but which would be justified in the way it related to the material, was to replace the formal schemas inherited from the 18th century. This tendency is not confined to any particular aesthetic or technique: it can be found in serial compositions by Boulez, Stockhausen, and many others; it can be found in the indeterminate processes of the School of New York as well as in the sonic mass evolutions in pieces by Xenakis, Ligeti or Penderecki.

From the Sixties on, a certain form of determinism would once more make its appearance in the works of many avant-garde composers. By the same token, it reinstated the repeat. A piece such as *Nomos Alpha* for cello (1966) created by means of the theory of groups, is built like a rondo in which the sections called V2 play the role of a refrain and serve as a perceptual marker. The formal construction of pieces such as *Rituel* (1975) or *Memoriale* (1985) by Boulez is determined by the return of certain sections possessing varying degrees of periodicity. Even the linear and progressive processes of the spectral school use repeats. For example, the process of tension and relaxation in Grisey's *Partiels* has an "at ease" section that comes back four times. Certain scientific theories such as the theory of catastrophes or of fractal objects have been used as models in the search for formal solutions to the problem of the repeat. The fractal character of *auto-similarity* — the same form reproduced on different scales, the most famous example being *Koch's curve* — has its equivalent in spiraled forms in which the material, subject to constant anamorphosis, constantly repeats itself. These forms arise both from the linearity of the process and the unpredictability of the repeats.

The Angel of Death pushes the rehabilitation of the repeat even further, since it not only repeats a section but also the entire first half. The constraints of having two parts whose material and timeline are identical constituted a kind of challenge for the composer. How did Reynolds manage to live with this constraint and yet not surrender major aspects of his style? How was he able to avoid falling into the trap of boredom and repetitious repeats?

7. Fragmentation

In listening to the composition, a feeling of familiarity emerges during the second part without the listener being able to say why, and in some cases, without really being certain of the reality of that feeling of familiarity. The familiarity profiles recorded by the research psychologists show that material that was re-used in the second half of the piece was perceived by the listeners as being more familiar, independently of whether it was the S-D or the D-S version. [Lien vers article SM1]. Many factors contributed to differentiating *D* from *S*. These factors have been analyzed in several texts in the present work. For the main part, they consist of changes in instrumentation (most of the elements presented by the piano in one part are taken up by the ensemble in the other part), as well as time stretching of themes, giving rise to various harmonic, rhythmical, texture, density and dynamic modifications, etc.[23]

By way of example, let us take a look at the most impressive mutation, that of Theme 3 (Figure 4). Its duration was multiplied by seven, and the number of subsections doubled. In addition, the temporal morphology of the theme was totally disrupted. Whereas in *S*, the subsections take the form of symmetrically deployed "wings" on either side of the core element, in *D* an anamorphosis occurs. Here, the wings are asymmetrical. The core element is no longer the center of the theme. The reader will also notice the phenomena of time contraction followed by time expansion around the core element.

Figure 4. Theme 3 proportion change from S to D. CE = core element.

Thus, the material in the first subsection of Theme 3, presented by the piano in S over 3 bars, has been fragmented into short motifs alternately given to the percussion, the woodwinds and the strings, stretching out over a little more than 30 bars. Moreover, the material from Themes 2 and 1 are superimposed over it. Figure 5 shows bars 93 to 95 of the score, in other words the start of Theme 3 in *S* (the first subsection) and Figure 6 shows the same passage in *D*. The first subsection is now divided into four subsections. The motifs belonging to Theme 3 played by the violins, cello, flutes, clarinet, and bass clarinet appear. In the meantime the piano plays motifs drawn from Themes 2 and 4.

Figure 5. *The Angel of Death* (bars 93 to 95), Theme 3, S part.

Figure 6. *The Angel of Death* (bars 93 to 95), Theme 3, D part.

Finally the only elements of *The Angel of Death* that remain invariant in the second part are *Other,* the Interlude, and the core elements of the thematic material. However, their function is different. Whereas *Other* has a disruptive role, and whereas the *Interlude* serves to dissipate the energy released by the *RepStrat* section in order to prepare the arrival of Theme 5, the essential

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[23] Theme 1 (T1) goes from 61.5 s to 184.5 s., T2 from 38 s to 151.5 s, T3 from 23.5 s to 161 s, T4 from 23.5 s to 103 s, T5 from 99.5 s to 131.75 s.

function of the core elements is structural. They have a powerfully invariant character, and more than that, they hold the composition together.

8. The core elements: concentrated invariance

One of the most striking among Reynolds' compositional techniques is how he builds up his time structures around what he calls the core elements.[24] The core elements have strong temporal, pitch content and morphological identity (register, texture, density, dynamics, etc.). They fulfill an expressive role as well as a modeling function in the creating of the subsections. Indeed, they need that strong identity to withstand the transformation procedures. As Reynolds puts it, "Core elements are composed according to strict methodological standards, whatever this may mean in a given piece. This rigor is particularly important because of the fact that they serve – at least in my case – as the reservoirs of orderliness for the work as a whole. The algorithmic procedures that I use often disturb temporal proportion and succession radically. Overall consistency in the composition, then, requires that each derived fragment of the original whole, wherever it is found, should itself be a reliable product of the underlying orthodoxies (and, hence, bound effectively to their formative influence)".[25]

Above all, core elements carry the major proportions of the numerical series chosen for the composition. In *The Angel of Death*, the proportions of the core elements — 14.5, 9, 5.5, 5.5, 14.5 — are drawn from a numerical series previously used in such pieces as *Vertigo* (1985), *The Vanity of Words* (1986) or *Variation* (1988). This numerical series (0.5, 1.5, 2, 3.5, 5.5, 9, 14.5, 23.5, 38, 61.5, 99.5, 161) may be compared to a Fibonacci series (Figure 7).[26]

Figure 7. Logarithmic numerical series used for the proportions of *The Angel of Death.*

It should not be thought, however, that Reynolds is obsessed with numbers. There is a simple pragmatic reason for using this type of numerical relationship: generating embedded values is made easy (e.g., 99.5 = 23.5 + 61.5 + 14.5). Inner and outer time proportions of each theme can be built on that set of numbers. Figure 8 shows the theoretical proportions for each of the themes, expressed in seconds. It will be observed that the subsections are deployed on either side of the core element, so that, with the exception of Theme 5, it is the center of the theme.

Figure 8. Proportions of the 5 themes in *S* (the *core element* is circled).

In *D,* the themes change character. Their borders become fuzzier; they spread out and overlap in the formal plan. The inner and outer proportions undergo drastic change. There is considerable change in the temporal identity of the themes. It is only the core elements whose proportions and positioning in the time structure stay the same (Table 2).

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[24] The notion of the core element is somewhat different from the idea of a "center" used by Stockhausen in *Hymnen.* In that composition, each region possesses one of several centers in which a hymn plays the role of focusing agent. In Reynolds' music, the core elements are never "borrowed", but are always composed according to the specific needs of each piece.

[25] Roger Reynolds, *Form and Method*, *op. cit.*, p. 19.

[26] The Fibonacci series, from the name of the mathematician who discovered it in the Middle Ages, is a series of numbers in which each new element equals the sum of the two preceding elements, e.g., 1-2-3-5-8-13-21-34-55-89. If one divides 2 by 1, 3 by 2, 5 by 3, 8 by 5, 13 by 8, 21 by 13, 34 by 21, 55 by 34, the result is as follows: 2, 1.5, 1.666, 1.6, 1.625, 1.615, 1.619, 1.617, etc., approaching the ratio of the Golden Section.

Table 2. Duration and positioning of the core elements in S and D.

So it is the core element that more than anything else helps to maintain coherence between *S* and *D.* In spite of the change in timbre (when going from piano to ensemble and vice versa), it is the core element that possesses the greatest degree of invariance. Its duration and position in the formal plan remain identical.[27]

Each core theme possesses its own particular character, harmonic as well as textural, so as to be noticeable, identifiable and memorizable to the listener (on a conscious as well as an unconscious level). Core elements are intended as conveyors of perceptual invariance, and even after transformation must remain recognizable. The link with their origins must remain perceptible. As Stephen McAdams points out, "The recognition and comparison of a more or less similar pattern after some kind of transformation at a later point in a piece, implies the existence of a mental representation of the original pattern that maintains certain structural properties during the transformation."[28] Perceptual invariance means that certain relationships between categories should remain constant along a given dimension even after transformation.[29] Moreover, the listener must be capable not only of recognizing transformed material as being similar to or associated with its original element, but must also be aware of the nature of that transformation. Thus the perception of the degree of invariance demands not only that the listener recognize characteristics, but also that he or she distinguish between musical dimensions that have undergone change and those that have not, as well as the degree of change. If the core elements are sufficiently strong, they will guarantee at least a fair chance that transformation is perceived and recognized. Nevertheless, as has been shown in certain studies carried out on *The Angel of Death* material, this compositional approach does have certain limits, even if it possesses undeniable perceptual validity. The balance between variance and invariance is dependent on the extent to which the material keeps its identity after transformation, bearing in mind the various contexts in which the elements are presented. The degree of transformation tolerated by the listener will also depend upon the distance in time between the transformed and the original element, as well as the degree of disruption caused by any intervening material. That being said, even if core element recognition is disrupted or hindered by too great a distance in time, by change in instrumentation, or by the electronics in the second half, core elements nevertheless allow listeners to get their bearings. This is how core elements contribute in a major way to the coherence of the work.

9. Interlude

According to Plato, interpretation is one of the arts of mediation. The role of the interpreter — the rhapsode — as described in the famous dialogue between Plato and Ion, limits itself to being the "ring" that links the composer to the listener. Interpretation boils down to inspiration. The rhapsodist interprets the poet who in turn interprets the gods. Both are utterly dependent on divine inspiration. In this sense, the interpreter is a messenger (*angelos* in Greek). But angels can fall. When an angel is no longer faithful to the divine message, he changes from a

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[27] Moreover, the other layers stop when it appears in such a way that its identity is preserved, and it can be heard easily.

[28] Stephen McAdams, "Psychological constraints on form-bearing dimensions in music", *Contemporary Music Review*, 4(1), 181-198, 1989, p. 194.

[29] Thus the change of register and transposition constitute transformations that are easily supported in the pitch domain.

messenger to an interrupter. He acquires subjectivity; he becomes almost human. To interpret is to leave behind the unequivocal utterance and in its place offer the multiplicity of possible meanings. Of course the interpreter must explain, must transmit, without wandering from the subject, but to interpret is also to appropriate the subject, to make it one's own. To interpret is to create afresh, to rewrite while maintaining a certain distance from the subject. Thus interpretation requires a degree of subjectivity. However, becoming deeply involved when speaking, analyzing and translating is not faulty interpretation. In spite of the risk that the interpreter may mistake a meaning, or make a false interpretation, it is precisely his or her subjectivity that gives value to the interpretation. So how then can the interpreter avoid making mistakes when interpreting? This is precisely what the poet, the composer, the artist, wished to express but without imposing any particular meaning. It is the subject itself that generates the meaning. As Gadamer wrote, "the hermeneutic event takes place when what is contained in tradition finds expression in words. *A fortiori,* it is more true than ever to say that the event is not the action that we exercise upon the object, but rather the action of the object itself".[30] This is why the questioning implied by the three *compulsory figures* (accepted constraints) in *The Angel of Death* produced various answers, answers that occasionally contradicted each other. It is up to the reader to accept, extend or refute those answers. The very title of Reynolds' composition is a questioning, and is entitled to an interpretation. We sought to interpret it in the same spirit of freedom and of subjectivity.

10. The Angel at Work

Dharma bums, fallen angels, avenging Angels, the wings of desire, black angels, the blue Angel, the new Angel, Angels in America ... there was no lack of angelic images in the arts in the second half of the 20th century. Contrary to biblical descriptions filled with fear and terror, the angel is seen nowadays as a hybrid creature, ambivalent, unstable and fragile. The 20th century angel is both masculine and feminine, belonging to light as well as to darkness, hesitating between good and evil, and ceaselessly traveling between heaven and earth. Its multiple forms are like the doubts and the vacillation that plague us, but at the same time the angel offers us a way out. It is a manifestation produced by our collective imagination, showing us possible other universes: the modern angel incarnates the alternative. Not only does it allow us to escape from reality, from despair in the face of a world ever more caught up in national and international conflict, in social injustice, in social exclusion and economic inequality, but it is also a symbol of the human ability to invent new solutions. The modern angel represents our faculty for inspiration, for the way the human mind will abruptly produce an "impetus", will suddenly generate a solution to a problem. It is precisely in its fleeting and immaterial aspects that the guardian angel is able to intercede between the self and the Self. The modern angel symbolizes our faculty for rising above ourselves, a force that drives us to transcend ourselves.

As did the literature, the plastic arts and cinema, Western art music has made ample use of the figure of the angel. The many different types of approach are an indication of this theme's complexity and power to inspire. Strikingly, the figure of the angel is very present in certain composers and totally absent in others. The meanings that it carries in musical works are many and varied and reflect the diversity of the aesthetic viewpoints. The angel in the *Quartet for the End of Time* (1941) by Olivier Messiaen is from the Apocalypse of St John. He bears witness to the horror of the Nazi camps and announces eternal life. The very moving *Sonata for Solo Viola*

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[30] Hans-Georg Gadamer, *Vérité et méthode, Les grandes lignes d'une herméneutique philosophique, [Truth and Method, Principal Aspects of Philosophical Hermeneutics]* Éditions du Seuil, Paris, 1996, p. 489. Translated into English as *Truth and Method*, various editions.

by B. A. Zimmermann, written just after the death of his daughter Barbara, is built on the theme of the chorale *An den Gesang eines Engels*. *Black Angels* (1970) for electric string quartet by G. Crumb, in reaction to the Vietnam war, depicts the journey of a soul after death. A cosmic vision by Stockhausen is incarnated by the struggle between Michael and Lucifer in his sevenfold opera *Licht* (begun in 1977). The figure of the angel as a symbol of transcendence runs through numerous compositions by J. Harvey, from his string quartet with soprano, *Angel-Eros* (1973), to his last opera *Inquest of Love* (1991-92) as well as his electroacoustic composition *Mortuos Plango Vivos Voco* (1980).[31]

The Angel of Death theme had never been previously handled by Reynolds. A series of events, most notably the death of several colleagues and friends, drove the composer to think about the fragility of life, and about the inevitability of death, which may come so suddenly, as well as the occasional unexpected opportunities that allow us to escape it. *The Angel of Death* is both the Angel of fate who announces death and the guardian angel who restores life. Reynolds' composition draws less upon the terrifying figure of the Avenging Angel[32] than upon peaceful angelic figures such as Raphael's healing Angel, capable of changing destiny, or the guiding Angel who accompanies the souls of the dead.[33]

Metaphorically speaking, *The Angel of Death* is represented by the electronics. Right from the end of the first part, the initial electronic "image" (D10) insinuates itself between the instrumental parts, in such a manner that the listener is not immediately aware of its arrival. This image, derived from Theme 3 materials, transposed and time-stretched, irresistibly evokes an unreal atmosphere in which something invisible and indescribable, perhaps a superhuman being, slowly comes down and gradually wraps itself around the entire sound spectrum. It is reminiscent of the words of Michel Serres in *The Legend of the Angels:* "invisible or visible, silent, shining or hidden, angels do not fly for the sole purpose of going beyond ordinary thresholds, but go through windows and transgress laws in the same way that sound bursts through barriers. Their bodies are probably made of waves".[34] The fall of the electronic Angel progresses through the 10 "images", the last of which (S7) was created by Reynolds as a kind of coda in which the main material flashes by at great speed, in the same way that a dying man's life is said to pass before his eyes.

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[31] Other creations on the theme of the angel: *Angels in America* by P. Eötvös, *Des Engels Anredung an die Seele* [The Angel's Homily to the Soul] by K. Huber, *L'Ange bleu* [Blue Angel] by M. Constant, *Three airs for Frank O'Hara's Angel* by L. Foss, *Ange au sourire* [Angel with a Smile] by J. Lenot, *Lutte de Jacob avec l'ange* [Jacob's Struggle with the Angel] by A. Tansman, *Mémoires d'anges* [Angel Memories] by A. Serre, *Angel's Music* by B. Sorensen, *Tongues of Angels* by B. Truax, *Angels* by C. Ruggles, *L'ange blessé* [The Wounded Angel] by J. Lejeune, *L'ange d'acier* [Steel Angel] by G. Finzi, *L'ange du Tamaris* [Tamarisk Angel] by J.L. Florentz, *L'ange ébloui* [Dazzled Angel] by F. Donato, *Le combat avec l'ange* [Struggle with the Angel] by A. Clostre, and *Crucibile of an angel-devil* by H. Radulescu.

[32] *The Angel of Death* is a biblical figure, the *mal'âkh hamaveth*, who, through an image laden with horror, personifies Death come to take men away. *The Angel of Death* was first so named in *Baruch's Apocalypse,* the day after the destruction of the Temple: "Hold back *The Angel of Death*! (...) Let the Sheol be sealed!" [2 Bar. 21, 23]. The Talmud describes it as a being whose body is covered with eyes, is clothed in fire, and has 12 wings wide enough to span the earth from end to end.

[33] Raphael is the first Angel named in the Bible in *The Book of Tobias* (200 BC). His name, which is derived from the verb *Rapha,* has a double meaning, to link and to heal, in other words a magical healer. Raphael cured Tobit, the father of Tobias, of his blindness, and set Sara free from the spell that condemned her spouses to sudden death. There is also the Angel who accompanies souls during and after death. He appears in numerous traditions, polytheist (Egyptian, Roman, Greek Antiquity) as well as monotheist (the Jewish, Christian and Muslim religions).

[34] Michel Serres, *La légende des anges [The Angels Legend]* Paris, Flammarion, 1993, p. 85.

Figure 9. Overview of *The Angel of Death*

Like the Angel, the mirror is considered as an intermediary between humans and what lies beyond death. It is often associated with the symbol of passing over, of a door or gate that opens the way to the other world, or simply to the world of the imaginary. In *The Angel at the Window of the West* by G. Meyrinck, the storyteller, thanks to a mirror, encounters a dead friend that he has not seen in a long while. In the mirror's reflection, everything appears changed, and bizarre but nevertheless identical. Time in the mirror universe is not the same as time in the real world; it is the intangible time of the dream. For Cocteau, the other side of the looking Glass represented a universe of poetry and imagination. In *Orpheus,* physical time stops for whomsoever passes through the mirror. The mirror changes to liquid when Orpheus, in the company of the Angel Heurtebise, enters the *zone,* a parallel world between the living and dead, filled with reminiscences and memory.

In *The Angel of Death*, the listener is invited to go through the looking Glass or more exactly the looking Glasses, since the work is like a series of mirrors. The overall structure of the piece seems to be reproduced on a smaller scale on various levels. Although they do not make up a veritable fractal universe, the formal structures appear to be governed by the principal of self-resemblance. A simple idea is reproduced on several levels of scale: a structure made up of two parts bearing a similarity to each other, and separated by a small break or rupture, an element that signals a change in process (Figure 10).

Figure 10. Structural self-resemblance in *The Angel of Death.*

On the level of the largest scale, i.e. that of the entire piece, the two parts S and D (or D and S according to which version was chosen) are separated by the entry of the electronics. The D10 sequence marks the transition from *S* to *D* or vice versa. At an intermediate level, the section *Other* marks both a suspension in the time dynamics and a break in the relationship between the piano and the instrumental ensemble. On the smallest level, that of the themes, the core element is at the focal center of the other subsections. This self-resemblance principle does not govern the proportions, which might have been the case had a fractal form been used, but it does indeed structure the formal rhetoric of the composition. It can be said to be a reversal structure, a *peripeteia* as defined by Aristotle in *The Poetics,* which occurs at several structure levels. It is a type of structure that is not foreign to the Reynolds' aesthetic — we came across it notably in such pieces as *Ariadne's Thread*, *On the Balance of Things*, *Dionysus* and *Watershed*.

The figure of the Angel appears not only in the electronics part, but also in the composition's formal structure. Here the Angel is the Ferryman, who through the intermediary of transitional *zones* — D10, *Other,* the five core elements —, makes it possible to go through the multiple "looking glasses". Thanks to the figure of the Angel, who appears on three levels of structure, Reynolds managed to integrate into his musical and poetical universe the three "compulsory figures": the five themes, the *S* and *D* parts*,* and the reversible form of the entire piece. These constraints, which arose out of experimental necessity, revealed themselves to be veritable sources of inspiration. What might have become a conventional composition was transformed in the course of the creative process into something much more complex, a universe of timbres and textures rich in perceptual ambiguity, as well as a vast network of thematic relationships. Reynolds responded magnificently to the challenge. His compositional approach showed itself to be sufficiently robust to deal with "compulsory figures" that would normally be foreign to his writing practice. In the process the composer sacrificed neither strength nor

identity.