

Towards an Analysis of Compositional Strategies¹

Éléments d'analyse de la stratégie de composition

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Article abstract

The author is interested in the process of composing, i.e. the invention of a piece of music from the initial spark of intuition to the final product. His study is based on the “Germinal” project, an experiment in composition involving fourteen composers working with identical technical resources in computer studio 123 of the GRM (Groupes de recherches musicales) in Paris in 1985. Their creations all followed a common work schedule in four stages, with each composer adopting a very personal strategy at each of these stages. Describing their strategies amounts to giving an account not only of their actions, but also of the attitudes and decisions that led from an initial project to a final product. Four levels of criteria governing the decision-making process are then proposed: technical quality, grammaticality, the musical idea and the topic. The first two conform to a search for regularity while the latter two suggest a desire for singularity. These levels determine work attitudes in relation to sound and machines, i.e., poetic attitudes. From this comparative study several strategies have emerged, three of which are explained. Finally, the author develops the concept of singularity, which is a central concern of composers, and which may also be viewed as a challenge to computers and music analysis.

Towards an Analysis of Compositional Strategies¹

François Delalande (Translated by Timothy Barnard)

In this article I propose to take a close look at the nature of musical composition. Not *a* composition — a musical structure of juxtaposed sounds — but composition itself, the act of composing or more generally of inventing music, from the first spark to the finished object. We need to establish a model for this practice of creating individual compositions and to take a fairly close look at how the imagination works with the material and the tools at its disposal, at the behaviours involved, and at how and when decisions are made.

What has tempted me to make a modest contribution to this topic is the privileged material at my disposal. In 1984, Bénédict Mailliard launched the ‘Germinal’ project: fourteen composers were invited to create a short étude which observed certain common constraints². Each étude would be entirely created out of a ‘germ’ or ‘kernel’, a sound cell several seconds in length.³ The kernel would be different for each composer and had to be transformed, developed and multiplied using only the resources of the 123 computer studio of the Groupe de Recherche Musicale (GRM), which had been specifically designed for these kinds of transformations. Only the final step of the composition process, the editing and mixing, would be carried out in a traditional studio. All that Jean-Christophe Thomas and I had to do was to submit the composers to close questioning, which we did with a dozen of them, thereby obtaining a homogeneous body of descriptions of how composers work.

1. [Ed.] This article was originally published in the conference proceedings *Structures musicales et assistance informatique*, June 1-4, 1988, MIM, CNR Marseille.

2. [Ed.] The participating composers and their respective compositional entries were: François Bayle — *Feux d'eau*; Jacques Lejeune — *Impromptu-nuage*; Denis Levaillant — *Éloge du zarb*; Bénédict Mailliard — *Affleurements*; Yann Geslin — *Rebours*; Daniel Teruggi — *Léo le jour*; Arnaud Petit — *Furientanz*; Alain Savouret — *Étude, numérique, aux syllabes*; Patrick Fleury — *Stand by*; Philippe Mion — *Cotillon 2000*; Denis Dufour — *Le labyrinthe de l'amour n°1*; Christian Zanési — *Zéro un*; Gilles Racot — *Anamorphées*. The pieces were premiered — save for Bayle who did not strictly respect the constraints of the project — at a concert on 26 November 1985.

3. [Ed.] The word “kernel” is used to translate the French “germe”, the root of the word “germinal”, which means seed, or more generally, the first rudiments of

any living thing, and by extension, the origin or starting point of a work of art. “Kernel” is chosen since it is the word traditionally used in organicistic musical analysis, for example by Rudolph Rétî.

4. Michel Chion and Guy Reibel, *Les Musiques Electroacoustiques* (Aix-en-Provence, INA-GRM/Edisud, 1976), p. 210.

This body of information has its virtues and limitations, as outlined in the following discussion. If it were a matter of comparing the composers’ plans, defined as a series of operations, this material would be quite poorly suited to the task because the plan was, generally speaking, fixed by the project’s constraints. But the relative uniformity of the stages of creation was suited to bringing out more fine-grained differences: the differences in the strategy adopted by each composer working under similar conditions. Each observed the same chronology of operations: recording and manipulating the kernel, editing and mixing. But no two composers approached in the same way the triad of machine, sounds and imagination as a means for giving birth to ideas, decisions, corrections and, finally, a piece of music.

From ‘creative plan’ to ‘compositional strategy’

Usually, electro-acoustic composition is described as having four stages:⁴

- sound recording (concrete or electronic);
- transformation and manipulation;
- creating the mixing tracks;
- mixing.

It is useful to mention this somewhat outmoded schema (it is highly probable that the concept of the ‘track’ will gradually disappear, given its close connection to magnetic recording tape) because, first of all, it corresponds to the working plan imposed by the Germinal project, thereby constituting a common denominator, a backdrop against which more personal strategies become apparent. It is also the prototype of what we might call the ‘creative plan’.

One criticism that can be made of this schema or of any other ‘creative plan’ is that it does not take into account the workings of the imagination, mistakes, going back over one’s work or secondary intuitions. We have thus contrasted the ‘creative plan’, which describes the theoretical stages of taking the elementary sound object through to the final composition, with the concept of ‘compositional strategy’, which describes the actual sequence not only of the actions taken but also of the approaches and decisions which lead from an initial project to a final object.

In order to bring out the various aspects of this dialogue between the subject and the object, let’s examine the ‘strategy’ adopted by Daniel Teruggi in composing *Léo le jour*, his étude for the Germinal project, as seen in his description of it.

1) I had two intentions before beginning work on the composition.

The first was to work with the voice. It took time before I found the right kernel (at first I had chosen a woman's voice, but it had been poorly recorded). I wasn't entirely convinced by the voice of my son Léo, which I used in the end, but it had the advantage of containing the vowels used in song and of being suited to my second intention.

This second project was to work on what I call 'ragas', a phenomenon I had observed earlier, while helping another composer in the same studio. These are artificially contracted and then expanded voices which nevertheless retain their external contour. A perpetual resonance suggestive of the sitar appeared, like a kind of pedal.

This second intention is the prototype of what I will call a 'musical idea'. A musical idea is a singular sound that Terrugi is capable of hearing in his mind and of which he makes a mental picture. Here it is the result of an earlier 'chance discovery': while working with another composer, he had chanced upon the felicitous effect of this manipulation when applied to the voice.

The 'idea' is thus an imagined sound. It is very different from the objective [*propos*], which in this case was to work with the voice. Teruggi had never worked with the voice, and the idea attracted him because it is a field of electro-acoustic music that he had not yet mastered. To this 'objective' was added another (which he obviously does not mention), the objective of the Germinal project: to create an entire work out of one sound.

- 2) I was familiar with the formula for obtaining these 'ragas'. It was a matter of contracting the sound some twenty times (using the ETIR program) then expanding it some hundred-fold (with the same program).

I carried out the contraction/expansion operation several times varying the pitches (the entire beginning is like that).

I used the kernel everywhere. The first day, I tried editing with fragments of the kernel (loops, etc.) but that didn't produce much in the way of results. At the end of my work in the 123 studio, I tried a number of somewhat crazy manipulations: ten-octave glissandi in two seconds, which are hidden in the ending.

I worked very quickly in the 123; I was there for one week.

Here we see two contrasting kinds of experiments. Teruggi tried numerous operations of contracting and expanding. But he knew where he was going: he knew the formula. He simply experimented with different parameters in order to obtain the effect he was looking for. His experiments were thus guided by the sought-after result, of which Teruggi had made a sufficiently precise mental image to eliminate any unsuitable approach.

This is very different from the other experiments he mentions: the somewhat crazy manipulations, from which Teruggi no doubt expected some fortuitous surprise, such as, perhaps, editing experiments. Here, experimentation is on a

quest for the chance discovery. Apparently, no chance discovery was made, because in one case the results were ‘hidden’ and in the other abandoned.

- 3) In studio 116 (for editing and mixing), I had a lot of material created in studio 123 (two reels of brief sounds). While working in studio 123 I had identified the sounds which interested me. I worked with only a few of them, grouped by families on the tapes (I called the others ‘scraps’).

I made stereo movements in order to conceal my sources by superimposing a large number of sounds, which were often the same sound with slight modifications.

It was difficult to work in stereo in Studio 123, so in studio 116 I put the same sound in both the left and right channels with a gap of time between them, in order to make the sounds denser. This, in essence, was where my interest lay (the idea of the ragas).

I wanted to have an enormous quantity of ‘ragas’ that I could mix like a kind of ‘plait of sound’, with more or less fixed high notes, giving me transformations of an octave or a fifth. Tonal agreement is peculiar to my way of working, and I went wild with it here because it seemed suited to this work.

Here is another approach to the work in which, this time, there is strictly speaking no experimentation: Teruggi creates his work according to his choice of sounds on these two tapes and certainly according to a plan. Each step is defined by its goal:

- to create movements to conceal their sources;
- to mix one sound (on the left) with itself, reproduced after a slight delay on the right in order to make the sounds ‘denser’;
- to transpose by a fifth or an octave in order to obtain a plait of concordant pitches.

One of his concerns addresses the specific project of the composition and to the idea of ragas (to make the sounds denser). The others seem to reveal something like Teruggi’s stylistic rules. One of these rules, his taste for consonance, is articulated positively, while another, the concern to avoid revealing his sources too much, is expressed negatively. Teruggi seeks to ‘conceal his sources’, implying that revealing one’s sources is a stylistic error (an interpretation which is confirmed a little later).

- 4) On the advice of Bénédicte Mailliard, I reworked the piece for an hour and a half, re-introducing the voice and adding other sounds [making the kernel apparent was one of the rules of the Germinal project].

In the end, there were two parts: before the voice, we don’t know exactly what it is, while afterwards we realise that all the sounds derive from the kernel through transformation processes.

To enrich the piece, at a certain moment I introduced the ‘scraps’ in order to cover my trail. After breaking the tonality, the scraps are used to the maximum, and then

everything dies off until a moment of great clarity and, right afterwards, the child's voice appears. It's a very nice effect but it wasn't my original intention.

On an emotional level, the kernel (voice) was meaningful for me. Léo was calling for his mother, etc. I didn't want to show this dramatic aspect. I put the voice there — I had to put it somewhere. I would have preferred not to include the kernel, it upsets the listening.

It's interesting, I realised this afterwards. The voice creates an illumination, it makes you listen in a different manner. This is the climax, but I couldn't have known this. I recognised the voice throughout its transformations, but I couldn't predict the reaction of other listeners. This play of recognisable/unrecognisable was not the original idea. I didn't want to include the kernel in order not to betray myself: everyone would have known where the sounds came from.

Here the stylistic rule about concealing sources is made clear. It might not have been formulated so explicitly if it hadn't entered into conflict with the *Germinal* project's rule that the kernel be audible.

But here the constraint has a heuristic effectiveness, because it determines this little 'chance discovery' on the level of constructing the overall piece — the upsetting of the listening experience, which Teruggi could not have foreseen but which he views afterwards as a very good effect.

5) This is a work I had a lot of fun writing. It's rare to have a perfectly clear idea. The mixing lasted four hours (two sessions of two hours). I was about to go on vacation, I was in a hurry. I had a great time.

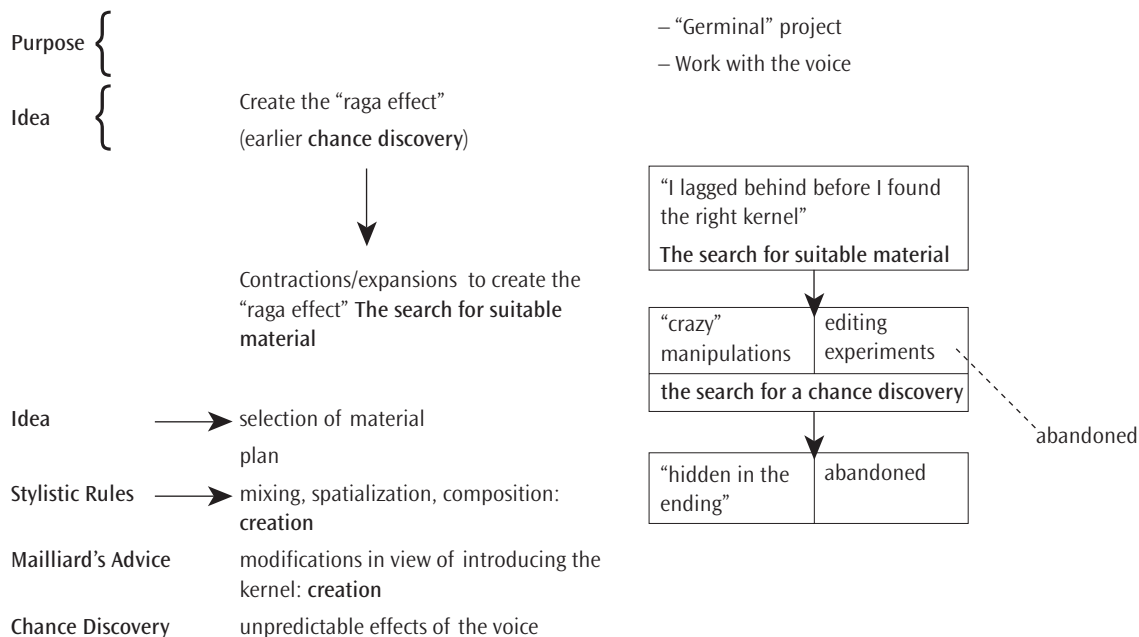
Now we come to the pleasure dimension; the composition seems to have been more fun than his holidays.

The following chart summarises Teruggi's strategy:

- the elements in boxes are the stages of creation (distinguished on a secondary level by their poietic approaches);
- the elements outside the boxes are the judgments, ideas and decisions which lead from one phase to another (followed by an arrow: the decision-making criteria).

We won't examine all twelve composers' descriptions of their work one by one; instead, I will now bring the various observations together in logical order. We see that the decision-making criteria respond to numerous types of concerns. The objective, the musical idea, and the implicit stylistic rules apparent in the previous example illustrate these. We can also summarise the composers' approaches to the sound and the machines: at times they are on the lookout for a chance discovery, at others they are seeking a solution to a precise problem, and at others still they are creating by following a plan and rules. Finally, we will

FIGURE 1. Flow Chart for the “Teruggi Strategy”



see that the sequences of approaches and concerns make it possible to distinguish different compositional strategies.

Decision-making Levels, or the Regularity/Singularity Dialectic

As the piece is being composed, decisions fall into one of four categories of concerns. Some of these are negative (what is to be avoided) and others are positive (what is being sought). At the ‘lowest’ level are details of a technical order and at the ‘highest’ level the literary or philosophical objective:

- the objective;
- the musical idea;
- grammaticality;
- technical aspects.

We will now examine these four levels in their hierarchical order, from bottom to top.

Technical Aspects

The rejection of certain sounds is immediately justified with reference to electro-acoustic technology: saturation, respiration, transient noise, etc. The rules the

musician applies here are seen as technical norms. An observer would remark that what for one composer is a defect might be an interesting singularity for another, but it is the composer's point of view which holds sway here.

Grammaticality

Throughout the creative process, some possibilities are ruled out and others adopted, with technical defects not playing a part in the decision. The criteria here appear as 'rules' to which the composer implicitly conforms and which define the style he or she adopts. The word 'rule' is understood here in a way quite close to how it is always understood in music — the rules of harmony are one example. We might elaborate on this meaning by way of the following two remarks:

- they are *poietic* rules, or criteria which guide the composer's decisions, rather than descriptive rules deduced from an analysis of the work by someone studying the work and the things that recur within it;
- a set of rules forms a part of the concept of style and can, like it, describe either the composer's entire output (or even the work of all composers) or a part of this output only.

Denis Dufour:

I did the minimum amount of work necessary at the mixing board: I removed the most cumbersome elements, avoided the effects of masking, separated the tracks, etc.

François Bayle:

My kernel was not well chosen and I wasn't very happy with it. It was too much of a sound effect, it wasn't organised well enough internally. This came at a time when I did not like 'sound effects' (unlike the period during which I composed *La fin du bruit*).⁵

5. [Ed.] *La fin du bruit (Érosphère 1)* (1979), a 35-minute electroacoustic work.

This latter quotation confirms that:

- rules ('wasn't organised well enough internally') appear in negative form when something is not entirely satisfactory;
- grammaticality can relate to itself;
- style can be extended to a period, to a group of works dating from about the same time.

On these first two levels, the composer's concerns are, above all, to 'avoid' or 'remove' configurations which do not respect the technical and stylistic rules which give the work the necessary quality and grammaticality.

We intuitively sense that this is not enough to give the work interest in its own right and are not surprised to find composers seeking, alongside this ‘regularity’, a ‘singularity’ for their composition. This singularity defines the work’s specificity in positive, not negative terms. This goal is addressed by the final two levels of concern.

The Musical Idea

‘The idea’ is a specific configuration of the sound substance that the composer views as bringing originality and interest for its own sake to a work or passage of a work. The idea is not the result of the work being carried out but comes to mind or appears on its own in the course of an ‘exploration’. It also suggests developments or a context. It thus plays a pivotal role in compositional strategies.

It should be added that whether ideas precede the work of creating the piece or appear in the course of the work they are used consciously (unlike stylistic rules, which sometimes become apparent only through the choices they determine), even though they do not belong to the realm of the verbal (unlike the ‘objective’).

The idea, a specific sound configuration, is something one hears, whether physically or internally, by giving a sufficiently precise image of itself. An example of a ‘musical idea’ is the ‘raga effect’ that Teruggi actually heard while working on an earlier piece and which he had a clear picture of when he composed *Léo le jour*.

For François Bayle, the idea appears while he is engaged in exploration, and its singularity resists a purely verbal description:

While exploring portions of these rudimentary things at different speeds, interesting reflections appeared. ... They produced little cooing noises, metallic sounds underneath. There was a kind of inner depth ... a climate, a kind of energetic-melodic feeling ...

For Alain Savouret, who composed the work *Étude aux syllables* for Germinal out of the words ‘Don Quichotte’, the idea is not a sound one actually hears but a mental image:

Within the narrow framework of an étude, I found small heterogeneous worlds: ‘don’ ‘qui’ ‘chotte’. While working, I made believe it was a realistic sound, an instrumental sound, etc. I took each of them at face value. I extended the ‘t’ sound in ‘chotte’, I made it more prominent in order to make rhythmic cells out of it.

– Did you plan on doing this when you started to work?

Yes, I can’t go into a studio without having an idea of what I’m going to do.

The Objective

The ‘objective’ is the part of the project that can be formulated (as opposed to the ‘idea’). ‘To work with the voice’ (Teruggi) or to create an entire étude out of a single sound (the Germinal project) are two examples of objectives. The objective of any étude could also be given as an example.

Here, Bayle comments on his interpretation of Germinal’s objective:

I had a literary and poetic idea: to unfold in order to find, to read fate in something that was muddled at the outset. All I had was an idea [for the sake of consistency we would say: ‘objective’], I would have been better off writing a book.

In this way, he emphasises the way in which the objective can be formulated and is literary, as opposed to the musical idea, which is listening to a sound in your mind.

Poietic Approaches, or the Chance Discovery/Work Continuum

The levels of concern (or decision levels) identified above determine one’s approach to working with the sound and the machines. Nevertheless, there is no direct or precise correspondence between the expressions ‘decision levels’ and ‘poietic approaches’. The kinds of concerns discussed above were all of a different order and could fairly easily be defined by contrasting them, while poietic approaches are spread along a continuum, ranging from fortuitous chance discovery to trial and error creation. Five degrees can be distinguished along this continuum:

- the fortuitous discovery;
- seeking a chance discovery;
- seeking the suitable;
- drafts;
- trial and error creation.

But we could just as well have isolated four, or six; the boundaries between them are quite fluid. ‘Seeking a chance discovery’, for example, is an approach that is very open to anything of interest that comes along. This is what distinguishes ‘seeking’ from something whose function is determined in advance. A continuum of intermediary cases exists, however, in which the composer knows more or less what it is he or she hopes to find.

The Fortuitous Discovery

The ‘chance discovery’ one makes when not expecting it is an extreme case, the opposite of ‘trial and error’ creation.

Denis Dufour comments on recording a sound for his ‘kernel’:

I took an armful of rods and dropped them on the ground. I should have dropped them on the ground when entering the studio.

Philippe Mion:

I even took advantage of an accident that was impossible to reproduce: a very nice sort of chopping sound. I found it as I was going along and used it.

Searching for a Chance Discovery

Trying to unearth a chance discovery is the concrete approach par excellence and is thus by no means rare. At times, seeking an idea is based on a fairly systematic heuristic process.

Denis Dufour:

I let myself be guided by what the computer gave me. I tried pretty well every manipulation, which, in any event, is what I do in a traditional studio: I play my tape in every direction, I slow it down and speed it up, looking for that bizarre quarter-second.

François Bayle:

I took one of the ‘dilations’ and, by exploring portions of these rudimentary things at different speeds, interesting reflections appeared.

Seeking the Suitable

Daniel Teruggi:

It took time to find the right kernel.

The ‘right’ kernel is the one that fits the project. This also involves a process of seeking: not a search for unexpected singularity, for the ‘bizarre quarter-second’, but rather for the object that is expected, defined by the absent place that is left for it in advance by the context. This can be a sound, or it can also be a manipulation whose effect is foreseen and which remains only to be discovered through repeated attempts. In this way, Teruggi sought the ‘right’ parameters for creating his ‘raga’ sounds.

I knew the formula for obtaining them. ... I tried a few different contraction and expansion operations with variations in pitch.

Drafts

When the goal has been fixed and the means of achieving it defined, there remains nothing more, in principal, than to carry it out. Most often, a composer

allows him or herself several attempts, but in the knowledge that one of them will be the right one.

Patrick Fleury:

When I arrived in studio 116, I had a precise mixing plan. I modified this, however, although only slightly.

The ‘draft’ can pertain either to the sound recording or to the final mixing.

Denis Dufour:

I took the armful of rods, I let them drop, I listened to the sound they made. Gradually I refined the gesture.

Here there is no longer chance discovery but rather successive sketches of the best creation.

Trial and Error Creation

To carry the work out without questioning is an extreme case, but one that corresponds to an approach that composers adopt deliberately at certain moments in their work. In this way, work is contrasted with chance discovery. When seeking a chance discovery, ‘you hope, you have a lot of energy’, as François Bayle remarks, while in the work of creating ‘you stop believing in miracles ... and put greater faith in one thing over another, stupidly, arbitrarily’. After the ‘divergent’ phase of experiments in every direction comes the ‘convergent’ phase in which expending too much energy would dissipate one’s energy: ‘you don’t work well when you’re tired’.

Teruggi, no doubt, would say ‘you only work well when you’re in a hurry’, for he found the same forced efficiency when he ‘had to go on vacation’⁶.

Compositional Strategies

Equipped with this analytical chart of levels of decision and poietic approaches, we can easily enter into more detail and more surely into a description of ‘strategies’⁷. I will not create an exhaustive typology here but rather limit myself to comparing three of these, from a single point of view: the place given to the chance discovery, or to singularity discovered through listening.

The ‘Bayle Strategy’

This is what I call the strategy that is apparent in François Bayle’s remarks on his work in the *Germinal* project. It is unlikely that Bayle adopts the same strategy for composing each work. It appears, however, that experienced composers have tried and true strategies, as suggested by Bayle’s constant switching in his interview between the imperfect tense to describe his own experience composing his

6. Anyone who has found him or herself in the situation of writing an article will have noticed the great generality of these observations. The mental dispositions favourable to “divergent” or “convergent” thinking and the personal methods used to master these approaches are perhaps constants in poietic strategies.

7. See the glossary of terms below.

étude for *Germinal*, *Feux d'eau*, and the present tense to describe the composition process in general. His project as a whole is based on a chance discovery, on the singularity of a musical idea.

I'm not capable of having a 'trial and error' project. I don't believe in it. To make a piece of music, I need to have values. And to have values, I need to hear them.

Further on, going back over his work, he states:

What I needed was something that appeals to me to appear in it [*quelque chose qui me chante*]. I know only how to recognise music, I don't know how to make it. I try things, and some of them appeal to me. These are the ones I keep.

'I try'. How?

I need to create a space, to create variety out of a phenomenon. This is how you create a range in which the same phenomenon recedes and expands. And then you can see when it touches you the most, when it makes you think of something else.

Elsewhere, when speaking of this chance discovery that makes him think of something else, Bayle uses the expression 'take-off', which should be understood in both senses of the word. A signified doubles a signifier, there is a return, and both levels 'take off'. But there is also a beginning, when 'the creative process is kick started'. On things that appeal to him, he remarks: 'Here I feel I am being called to in a much stronger manner'.

This semantic unhinging, this appearance of a summoning gives Bayle the project of a development. Singularity engenders form.

They produced little cooing noises, metallic sounds behind. ... A slight trace of colour. Here a little story is born: it's the story of a frog in need of its bog.

We see already what the final mix will look like.

I need the creative process to be kick started: to have characters, a setting, a story.

The 'Savouret Strategy'

Alain Savouret's strategy contrasts with that of Bayle. Savouret imagines before he hears.

Savouret:

I can't go into a studio without having an idea of what I'm going to do.

We have the impression that Bayle is responding to Savouret when he says: 'I'm not capable of having a 'trial and error' project. I don't believe in it. To make a piece of music, I need to have values. And to have values, I need to hear them'. Note the parallels in these two formulations, which give these antagonistic choices a definitive character: 'I'm not capable ...'; 'I can't...'. Savouret

starts with an objective and a musical idea, but this idea is something heard internally, something imagined: the extended ‘ch’ sounds, the ‘t’ sound manipulated rhythmically like the sound of an instrument. There is little room for chance discovery while creating the piece:

Before entering the studio, I knew pretty well which programs I was going to use, apart from the welcome surprises of new programs.

(He leaves the door open a little to ‘welcome surprises’, but doesn’t count on them.)

Curiously, an approach of chance discovery appears at the end, while mixing. Savouret practises what he calls ‘generalised polyphony’, meaning that he mixes the voices completely independently, without planning the superimpositions.

This is a pleasure I can’t deny myself. Some things you know and some you don’t, they can’t be imagined.

Chance mixing isn’t retained just the way it turns out, but is ‘framed’ by stylistic rules:

There is a series of gaps to make the generalised polyphony clearer.

The ‘Dufour Strategy’

Bayle saw the chance discovery as coming at the beginning of the work of creation, while Savouret located it at the very end. Like Savouret, Denis Dufour has a precise image of the form of writing in mind when he enters the studio, but he counts on a chance discovery for ‘inventing the details’.

I work a lot on the chance discovery, I pretty much belong to that school. But these are chance discoveries I’m expecting and I truly know what to do with them. I have my entire battle plan in my head, my script, the dramatic movement, the breadth. What remains to be done is the invention of the detail, which is created by chance. But I know if I’m going to embark into the high notes, create a build-up, write a canon or work on the melodic or rhythmic aspect of such-and-such an element, etc.... I know the tempi of my movements, that some are repetitive and others flattening. And that’s where I go. Once I have a project in mind, it works, I’m off. It has to ripen for a long time beforehand so that, when I arrive in the studio, I don’t waste time thinking. I make a clear distinction: the studio is for getting the work done.

What exactly is the role of the chance discovery?

There are gaps, I’m afraid of a certain monochrome quality. The solutions will come from that [the chance discovery]: it’s a question of deflecting your attention, etc.

Dufour sums his system up this way:

I work with my own composition system, in which, I know, the chance discovery will be integrated.

8. Ivo Malec, for his part, strolls about Paris on an itinerary whose heuristic effectiveness he has come to believe in. Does everyone have his or her own “tricks” for getting ideas? Malec is a privileged informant because he is the heir and spokesperson of a tradition he has for a long time transmitted while teaching composition at the Conservatoire de Paris.

Return to Singularity

Let's conclude by examining the concept of singularity, which occupies a central place in composers' concerns and thus in the program of a study of poesis, for which we do not have very good analytical tools.

We have encountered singularity in many forms: in the work's 'objective', undoubtedly the most explicit singularity; but especially in the more enigmatic 'chance discovery', that peculiar sound configuration which is really heard and often sought, thanks to a heuristic approach; and more generally in the 'musical idea', that sound configuration which can only be imagined and which serves as a starting point or point of stimulation for invention.

We might have thought that the exploratory approach implied in the chance discovery would be particular to *musique concrète* and that writing out a musical score involved more systematic strategies. It appears that this is not the case. Ivo Malec, when asked about this, told me that the very term 'singularity', applied to a specific sound configuration, is quite necessary for him. He speaks of 'revelations', a term which effectively conveys the sense that the idea appears without putting much work into it, apart from adopting a receptive attitude⁸. Malec's 'revelation' is well and truly a specific sound configuration of which he forms a mental image. He gives the example of imagining a group of horns whose specific sound was the basis of one of his works.

Here we have looked at singularity from a poietic perspective and tried to specify its role in compositional strategies. Is the 'musical idea', defined poietically in this way, also the singularity that will give the work its specific interest when it is heard? We cannot be sure. We cannot rule out the possibility that the theme which appears to be a felicitous chance discovery is instead the result of long work and that, conversely, the germ-idea has completely disappeared from the audible result. Still, singularity appears, for both the work's reception and its production, to remain a criterion of aesthetic appreciation in the same way as regularity. What we expect from a piece of music, and from a work of art in general, is not only that it be correct, that it conform to stylistic customs, but also that it have a little spark that distinguishes it and which is not so easy to define.

Today, singularity appears to be a challenge to the intellect, and it is not surprising that Malec speaks of 'revelation'.

In particular, singularity is a challenge to computer-based works of art. Just as programming rules appear to be part of the very logic of computers, so too does the singular idea appear to be part of a different logic. This is why it is easy to use computers to compose pastiches of Mozart — albeit not very inventive Mozart — or fugues in the style of Bach. However, as the ad says, 'You can hear the difference'.

Singularity is also a challenge to analysis. We have moved, thanks to the success of linguistics and generative grammar, to a description of the rules for creating musical utterances which take into account their grammaticality. But we ask more of a piece of music than that it be 'acceptable' in the way a linguistic utterance is.

Doesn't the concept of singularity oblige us to search in other directions, perhaps in fact by better analysing production and reception, by seeing what role the idea and the chance discovery play in the imagination and how singularity — the welcome surprise, difference — renew the pleasure of reception?

Glossary

Objective [*propos*]: The objective is the part of the project of creating the work which can be formulated, unlike the 'idea', which can only be described using metaphors. The objective is necessarily conscious, like the idea but unlike stylistic rules, which may not be conscious. This is what the composers are speaking of when they habitually remark 'I wanted to', 'My intention was to', etc.

Rule: The rule is understood here in a poietic sense: rules are some of the criteria by which the composer decides whether a sound configuration he or she has created or merely imagined is acceptable or not. Not just any criteria, but only those which would also apply to another work. If one accepts the definition given here of decisions as having four levels (objective, idea, grammaticality and technical aspects), rules relate to the latter two (stylistic and technical rules). The concept of the rule rests on the fact that the composer rejects some solutions, not because they are unsuited to the specific project of a certain work, but because, in general, they do not seem to be correct, clear, skilful, etc.

Singularity and regularity: The 'musical idea' and 'rules' have been defined in a sufficiently narrow way to closely grasp their poietic reality. Nevertheless, specific qualities of the sound material exist which do not possess all the properties of the idea and are not the result of a discovery, for example, or do not give rise to work in elaborating this quality. Just the same, they give the work or fragment a specific interest. We might also suspect that this dual concern for the regular and the singular which drives the composer is also present in the listener. A successful work is one which not only does not have shocking technical or stylistic faults but also creates interest through some aspect of it that is singular. We therefore need a conceptual pair more open than 'idea' and 'rule' to account for this regular/singular duality which, we suspect, plays a part in both reception and production. We can only precisely define this pair after the fact

as equivalent classes of narrower concepts such as ‘idea’ and ‘objective’ for singularity and as ‘stylistic rule’ and ‘technical rule’ for regularity.

Compositional strategy: This expression is used here exclusively in the sense of the series of ‘phases’ leading the composer from the initial project to the final object, with each phase distinguished from the last by, first of all, a ‘creation stage’ (sound recording, transformation, etc.), and second by a ‘poietic approach’. In this way a single stage of creation can be divided into two phases with different poietic approaches; for example, a transformation stage can begin with a ‘search for the suitable’ and continue with ‘a search for the chance discovery’ (see Teruggi). The strategy can be depicted visually in a chart, in which we can place the level of the decision which dominates each phase or governs the passage from one phase to another (see the chart given above). Strategy is thus nothing other than the creation plan filled in by two kinds of information: the poietic approaches and their changes on the one hand and the levels of decision on the other.

Chance discovery [*Trouvaille*]: The chance discovery is both the act of finding and what has been found. In the latter case, it is a specific configuration of the sound material which, most often, motivates a development. It is thus a specific instance of the ‘musical idea’, one that is really heard, unlike the merely imagined idea (which I have avoided calling a ‘chance discovery’).