

Categories and Types of Anticipation in Music. An Attempt at an Inventory

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Abstract:

Anticipation in music is analysed by presenting an inventory of the possibilities of musical anticipation together with a tentative discussion of the cognitive mechanisms that may give rise to them. The "logic" of the phenomenon is exposed, laying bare the interplay between prospective and retrospective elements, and arriving at three categories of anticipation. It is further argued that in order to come to terms with musical anticipation, one must take account of the fact that we engage with music in three different ways: listening, reading, and performing. Six different types of anticipation are then proposed in relation to four structural aspects that may govern musical apprehension — continuity, segmentation, hierarchy, and network. Finally some musical examples illustrating various kinds of anticipation are presented and commented upon.

Keywords: retrospection, continuity, segmentation, hierarchy, network

1 Introduction

It seems evident that effects of anticipation abound in music, and that anticipation is an important vehicle of musical self-reference. But the varieties and exact workings of anticipation within music cognition are far from known.

The present paper is an attempt to give an analysis of the concept of 'anticipation' as applied to music, as well as to present an inventory of the possibilities of musical anticipation and a tentative discussion of the cognitive mechanisms that may give rise to a sense of anticipation in music. Rather than offering an account of what various music theorists have set out, this author will try to make transparent his own understanding of the

phenomenon and illustrate it with pertinent music examples. Hopefully this somewhat egocentric and at times introspective approach will be productive for further research in music cognition, either by ideas that perhaps may be drawn out from specific observations, or by whatever merits the general direction of the argument may have.

At first some basic aspects of musical anticipation will be distinguished in order to expose the "logic" of the phenomenon and to establish its fundamental categories. It appears that just as the concept 'anticipation' is ambiguous, there are two main senses of anticipation in music, one factual, and one that involves a sense of expectation. It is no doubt the latter, prospective kind of anticipation that has most attracted the interest of music theorists with a cognitive bent. But why and when do such anticipations occur, what is their range, and how exact is the envisaging? And even more crucial: what is the relationship between memory and anticipation, and to what extent is anticipation, paradoxical as it may appear, in fact a retrospective experience?

Questions like these bring us to broader considerations. Music is usually thought of as the art of sound, and listening is certainly at the core of music cognition research. But analysts generally take the written record of the music as their point of departure, and benefit to the full from the readily surveyable map of the frozen musical events shown in the score, sometimes with little regard for how (and whether) their observations come off when the music is set into motion and actually heard. Finally, and regrettably neglected by most analysts, music is also something that you perform. In order to come to terms with anticipation, it is obvious that all three modes of engaging with music must be taken into account.

Turning to musical structure and to how it is processed especially by listeners, there are (at least) four different structural mechanisms that may give rise to a number of more or less distinct types of anticipation. The phenomenon of anticipation thus takes on a different character depending on whether it derives from apprehending music in terms of its immediate continuity or its segmentation, or in terms of its emerging hierarchy or its network properties.

Complementing the theoretical account, the complexities of anticipation in musical practice will finally be illustrated by some music examples.

2 Categories of anticipation

Starting with an etymological protest, it will first be noted that the English language for some reason has got the prefix wrong. The topic of what follows is by rights "antecipation". The prefix "anti" suggests some kind of opposition, which is entirely irrelevant, whereas "ante", meaning "before", hits the mark.

But even correctly spelled, the term has two logically quite distinct meanings. "Anticipation" can refer to a situation in which an event, that we have every reason to think will occur at a certain moment, turns up before it is due. Psychologically speaking there is a factual touch in such premature occurrences of the foreseen. In other situations, however, the event has not yet turned up — it may actually be delayed or withheld — but we have a more or less exact idea as to what it will be like. We actively envisage the event, feel that it is "anticipated".

The distinction between forestalling and foreboding, between the factual and the prospective senses of anticipation, has counterparts in music. (This should come as no surprise, since music is not only the art of sound, but also the art of time.) Bringing out the crucial difference, we might say that in the first case it is the music that presents the anticipation, and that in the second case it is the listener that entertains the anticipation.

Let's first dispose of the "factual", already-there, category of anticipation. "Anticipation" is the technical term for a conventional device described in any textbook on harmony or counterpoint. One note (or several notes) from a chord, bound to appear on the following strong metric position, is introduced prematurely on the weak beat, producing a dissonant clash with the previous chord which is still in force; then the remaining notes yield to the new harmony. Admitting that the applications in some late Romantic music may be ambiguous, this kind of anticipation is readily understood. The paradigm is the Baroque cadence in which the tonic more often than not is anticipated, intrudes prematurely upon the metric territory of the dominant.

In such cases the present, i. e. the anticipated note, is heard with reference to an event that has not yet occurred but is safely foreseen. However, a closer introspective analysis of the phenomenon shows that the element of expectation, and thus of true prospection, is slight — there is little need to actually envisage the resolution chord since the harmonic/metric context is patently structured beyond any doubt. The relationship between the two events is very intimate: the tonic seems already there when the dissonance occurs. Indeed, one might perhaps prefer to say that the too early event does not so much point forward to its proper location and restatement, as it derives its own meaning backwards from it.

But the phenomenon of premature occurrence in music is far from exhausted with "anticipation" in this restricted technical sense; tones from ensuing chords are not the only events that can be brought in before they are due, and the concept of 'factual' anticipation thus seems to have a much broader application. Two observations are pertinent. Apprehending an event as occurring too early presupposes that, given our understanding of the structural implications of the emerging passage, the event is foreseen with considerable certainty, and especially that its proper temporal location is

known. It goes without saying that this "expectation" is not actually provoked — a too early event comes as a surprise. On the other hand, and this is the second point, factual anticipations are often associated with a sense of true envisaging. Since an expected event is introduced prematurely, more distant events may be actualized as objects of expectation: the musical future is drawn closer. Factual anticipations may thus give rise to prospective anticipations.

Before turning to the just mentioned, second category of anticipation, a debt ought to be declared. Most readers will notice that the following general account of prospective anticipation has much in common with Leonard B. Meyer's key concept "implication", i. e. with informed listener's activated expectations as regards future musical events or — shaking off the psychological limitations — with the analyst's notions of what "generative events" and "realizations" there are to be found in the musical text; cf. for instance Meyer 1973.

Dealing now with anticipations in phenomenologically emphatic, "prospective" sense, we turn to a wide range of possibilities to invent structures that invite us to envisage the future course of the music. In truly prospective anticipations the outcome is not given, not entirely safely foreseen, and that is why alert and musically competent listeners get interested. But it is important to stress that when entertaining anticipations, our expectations are not indefinite either; the music must suggest its future course in not too uncertain terms. This means that we leave aside (for the moment) clearly anticipative situations in which the music induces a sense of general uncertainty in the listeners — in such cases there may be a strong expectation that a change is about to occur, but little or no self-reference. The (relatively) specific foreboding at issue here is therefore not triggered by highly ambiguous or by uniform prior events. We must also be wary not too unduly stretch the concept of 'anticipation' so as to cover all but any expectation we may feel, however trivial, at almost any spot in the music, however insignificant — just stop the tape, and a latent quasi-anticipation will make itself felt. But even with these restrictions in mind, prospective anticipation emerges as a vital and frequently employed principle of musical meaning and self-reference.

Various types of anticipation-as-expectation will be described in a following section of this paper; here the phenomenon as such has to be analysed. Given that we have a triggering event, i. e. an event that suggests a fairly definite future development, and since nothing is factually anticipated in the music, the pointing towards the expected event is a decisive element in the understanding of the situation — we reach for what we feel is about to come. But it seems that this heightened awareness of prospective reference is accompanied by several retrospective effects. In order to anticipate, we must

sometimes recall past events as a basis for the prediction we are making, and the very act of anticipating means that the triggering event itself must be focussed and retained in memory for some time. And when the anticipated event has turned up, completing the configuration, it reflects back on the event that generated the anticipation. Anticipation in prospective sense is thus characterized by the fact that the prospection is complemented by important elements of retrospection: the self-reference works in both directions.

It remains to discuss two special cases of prospective anticipation. The first of them bears upon situations in which the expected event does not turn up. This non-appearance makes the anticipation as such no less real, of course — expectations cannot be withdrawn — but our idea of the triggering event must perhaps be accommodated in retrospect to make room for an alternative meaning. The second special case is of greater theoretical interest since it seems to upset the definition of prospective anticipation — there is no expectation involved. Suppose that you hear an event that is understood as related to an earlier event in the same way as a triggering event would be related to its later expected event. In such situations there is in fact and after all a triggering event, but it was not noticed as such when it was heard, and therefore nothing was foreboded. In short: there was an anticipation.

“Past-tense” anticipation makes up a third category in its own right rather than a sub-category, and it means that the listener entertains the anticipation retroactively, feels that a (prospective) anticipation might have been heard; it is a retrospective experience with prospective content. One must not forget, however, that it is necessary that there is a prior event with triggering potential; if not, the retrospective relationship in question is tantamount to some kind of reminiscence. Reminiscences are of course also vehicles of musical self-reference and have their specific cognitive mechanisms and methodology of analytic detection, but they must be left out of account in this context.

Generally speaking, anticipation (together with its concomitant effects of retrospection) works so as to extend the narrow frame of the psychological present by holding out future events for the imagination and by evoking the memory of past ones: anticipation is one of the mechanisms by means of which music moulds our sense of time. The extent and content of this envisaging and recollection is a moot point, however, and makes up a problem which music cognition research has to tackle.

3 Modes of engaging with music

When you listen to a piece of music for the first time, you don't know what is

going to happen after the note you have just heard. Or rather, you don't know for sure, because we use our stylistic knowledge and whatever specific information we have gained from the piece so far, and can often come up with one or several good predictions. Whether we actually do so or not, depends on whether the musical situation invites us to envisage how the music will continue, whether there is an event that triggers anticipation. Listening is thus the paradigmatic mode of engaging with music as far as entertaining anticipations is concerned — listening implies that there is an element of uncertainty involved.

Before dealing with the other modes of engaging with music, a complication must be settled. Much of our music listening is rehearing, and one might object that when we listen again to the same piece of music, there is no uncertainty. This is far from true, however, and it has been argued (Meyer, 1961) that for various reasons — forgetting is but one of them — we can and do keep our first, fresh listening reactions fairly intact. The point that is pertinent here is slightly different: it doesn't matter very much whether our inclination and ability to anticipate derives from general knowledge (internalized familiarity with stylistic and structural constraints) or from dimly remembered knowledge in advance of actual compositional details. And the exact, authentic formulations (to the extent that we can recall them) do not simply replace the less specific anticipations we may entertain, but coexist with them and exemplify them in conforming or even deviating ways.

When reading a score, all analytically demonstrable anticipations are there to be established as objects without past and future. It would be single-minded to insist that all analytic observations, regardless of the purpose of the analysis, must necessarily correspond to, and be corroborated by, things that can be readily heard — there are less blunt ways to put the often desirable relationship between score-based analytic findings and the evasive impressions of music in motion, cf. for instance Dubiel, 1966. But to the extent that anticipation is essentially a psychological phenomenon, the problem persists, and it must be granted that analysts tend to greatly exaggerate the amount of anticipation that actually takes place.

Detecting anticipations in the score, i. e. finding that some event in the musical structure might be conceived of as preparing for a later event, is of course a legitimate enterprise and represents an important aspect of structural understanding. But it operates without the restrictions that hold for truly prospective anticipations — when scrutinizing a score, recollection as well as foresight are unlimited — and the “anticipation” relationships pointed out in analyses are therefore sometimes quite unrealistic in terms of actual envisaging. Since you are free to study notated musical events in reversed order to discover whatever relationships that may obtain between them, it is likely that some analytically established anticipations are, if not prospective, nevertheless at least past-tense anticipations. Indeed, the latter

may work as present-sense, prospective anticipations once you have learnt that they are there. The analytic study of anticipations no doubt has its own cognitive (and methodological) principles that merit attention, but anticipations found in scores should always be critically assessed in order to distinguish those that are likely to be operative in actual listening situations.

The third mode of engaging with music, performing, occupies a mediating position between reading and listening. Far from being just a conversion from sign to sound, an artistic performance is always based on an interpretation, i. e. on a certain way to understand the musical events and their relationships. Interpretation involves a number of more or less conscious choices, some of which concern the rendering of anticipations — the performer cannot avoid treating them one way or the other. Anticipative relationships can be suppressed or brought out; indeed, depending on what anticipations the performer sees, potential anticipations may be altogether neglected, or anticipations may be suggested even where no such relationships seem to be called for analytically. The importance of interpretation for how listeners actually entertain anticipations is evident, and in particular it seems that the timing of the player's interferences is often crucial. It must furthermore be pointed out that not even analysts can escape the decisive influence of interpretation. To the extent that analysts base their observations on the sonic musical essence at all, they are bound to experience the music in terms of some interpretation.

Turning finally to the performers themselves, they are not likely to entertain any anticipations in prospective sense. While analysts in spite of their omniscience may somehow pretend that they listen prospectively, truly prospective uncertainty cannot be attained or afforded by performers at work. He or she has to know positively what the coming events are, and what configurations they are to make up when joined with present and past events, and then spend all efforts to render the music according to the interpretation chosen.

4 Types of Anticipation

In this section several types of anticipation will be distinguished, and they will be described in terms of their triggering events and of the expectations entertained. It goes without saying that the structural and stylistic properties of the music to a large extent determine which kind or kinds of anticipation that will be aroused in each specific case, but it seems that a few basic mechanisms can account for most anticipations. Those to be presented first tend to produce references mostly within modest formats and arise from a one-level understanding of the music, whereas the remaining ones typically apply to more extended portions of music and require apprehension at two or

several levels. Although these mechanisms of anticipation are logically distinct, they may of course be combined; the actual specimens met with in musical practice are often hybrid formations caused by intersecting principles. No claim is made to the effect that the types proposed exhaust the possibilities of musical anticipation.

Short-range anticipations may best be explained from a musical perspective according to which the music appears as a continuous flow of events that are mutually dependent and functionally related to each other. As a result of this representation in terms of piecemeal consequence, you feel that the music is coherent in an additive, chain-like, cause-and-effect manner, and that you can predict its future course a number of notes ahead with some safety. Memory is hardly required — anticipations of this kind are based on just a few notes that seem to be at hand simultaneously — and if the expected note or notes fail to turn up, there is normally no problem: new local goals are supplied to fit the continually changing background of past events. Short-range anticipations based on continuity are potentially very frequent, but it seems that many of them are more or less trivial, and they tend to pass unnoticed or emerge as transient phenomena only.

But there is a specific type of anticipation based on continuity that brings far more important effects, and that might mark fairly large portions of music. It is not just note-to-note routine coherence that is at work here; these passages are unique and artfully designed, and they may take anticipation to breathtaking heights. The core of the phenomenon is gradual, accumulating change; various compositional and perceptual parameters may be involved, but the net result of the process is usually some kind of expansion or withdrawal. The sense of anticipation is very strong, and yet the envisaging is quite vague in terms of content: a releasing event, bringing a more or less sudden, radical shift in the music, is bound to occur, but we have no idea as to its specific characteristics. Since the triggering event and the releasing event are so weakly related in terms of musical substance, and since each passage is unique, there is little sense of self-reference involved. More often than not, effects of expansion are even more heightened by a concomitant feature which is again of anticipative nature. Before the expansion the musical activity is reduced or almost brought to a standstill: an extended state of suspense is created, from which the ensuing gradual intensification eventually will emerge. Both these devices — gradual change and suspended activity — tend to be used at important formal junctures or crucial dramatic turning points in music works, and the kind of anticipation felt is well caught by the word “foreboding”, although the mood of the phenomenon must not necessarily be ominous. Musically we might call these effects “preparative” anticipations.

Music is seldom just an unbroken chain of events, however. Intermittently the structure signals (relative) closure in a variety of ways, and as a result of these demarcations it emerges as divided into units of different size. Concurrently with the sense of continuity, then, music is heard as segmented. Segmentation allows of more extended anticipations — a whole unit of a certain size is expected — but envisaging in terms of entire units presupposes that a triggering unit of the same format can be held together either as an immediate percept or in memory. The anticipated unit may sometimes be envisaged in considerable detail, but the core of the phenomenon seems rather to be that it is the size of the coming unit that is anticipated, perhaps together with the exact temporal location(s) of some specified salient event(s) within it. Segmentation, thus, gives rise to a sense that the timing of future events is foreseen.

Much music has a more or less strict hierarchic structure, and it appears that two kinds of hierarchy are of interest with respect to anticipation. If segmentation is consistent and regular (or fairly so), one tends to hear the music as a hierarchy: units add up to, and are subsumed under, larger units and form a hierarchy. Experiencing such a hierarchy in the making means to envisage a rather extended portion of music as made up partly of memorized units, partly of units anticipated in more or less detail. It also implies that not yet realized higher-level properties within the hierarchy are foreseen: prospective and retrospective relationships between units are suggested, internal proportions, balances, and symmetries are felt in advance.

The other pertinent hierarchy arises from selection. Some events appear to be more salient or in some way more important than others, and when isolated from their substratum and joined together, they form a second layer, superior to, and yet inherent in, the basic layer comprising all events. If the music is heard as a hierarchy of layers (there may be several), the chances to entertain long-range anticipations are considerably increased. The higher-level, selective shapes set up their own more or less foreseen, distant goals — given, of course, that their roots, the sparse and distant events making up the triggering event, are retained in memory. The superior layers referred to here are not in the first place those arrived at by means of Schenkerian analysis. While some foreground and middleground motions, if reasonably salient, may carry significant anticipations, background connections, even if reasonably derived, will hardly do so. They are likely to be too extended, and when running towards their predetermined end, the tonal context tends to be patently structured to the point of making the anticipation involved too certain, indeed superfluous.

In addition to its hierarchic construction, music often has a looser, network organization as well. More or less distant events appear to be associated with each other on the basis of their qualities or degree of similarity — a specific

kind of associative relationship with a potential to bring forth anticipations seems to be that of model and copy. Because of the often widely disjunct nature of network associations, many of them are detected only after the fact; they are thus (if anticipations at all) most likely to emerge as retrospective, past-tense anticipations. However, if an event is identified as having triggering potential while hearing it— it might have an enigmatic quality or a sense of incompleteness, that arouses the listener's curiosity and makes him or her watch the music for a matching event that will eventually supply a satisfying resolution or closure — associative anticipations may be truly prospective, and may inform and span very large portions of music.

5 Music Examples and Recapitulation

It remains to give and comment upon some music examples illustrating the varieties of anticipation described above. This will further clarify some of the phenomenological observations made and also serve as a recapitulation. The examples will be drawn from three works, the first of which is the theme of the variation movement of Mozart's A-major Piano Sonata KV 331. This choice could no doubt be anticipated, given the practice of music theory, but it has some advantages. Apart from the fact that it is convenient to refer to a short and very well-known piece, this example gives an opportunity to weigh the influences of two basic sources of anticipation, to distinguish between anticipations arising from exact pre-knowledge on the one hand, and anticipations entertained because musical formulations, known or not, are likely to obey familiar tonal and stylistic conventions, on the other. In addition, this theme has come to be the standard testing ground for music analysis, a repository of structural insight into tonal music to which one ought to contribute.

Segmentation is a pervading trait in Mozart's theme. This means that once m. 1 and the first note of m. 2 have been played, listeners familiar with the style will assume that a further unit of 6/8 size will follow. And having heard two more notes, any listener can anticipate the two D's that complete m. 2 — a very safe conclusion since both the phrase format and the melodic model given in m. 1 have been confirmed by the recurrence of the initial motivic particle. By this time a higher-level shape in parallel tenths has also emerged: the inherent motion C#/A–B/G# is selected from the surface and becomes the triggering event for anticipating A/F# as the next step. And this sonority does turn up, but in other important respects the content of m. 3 is not what could be predicted.

The time the model fails to occur, and the second motivic particle is unexpectedly used to raise the melody back to C#/A at the beginning of m. 4. This goal is not unforeseen, however, due to the ascending continuity

emerging during m. 3, a continuity that is brought out by the quickened pace as measured by the density of motivic iterations; the return to the starting point is hastened, and the C[#]/A arrives early. On the other hand, and turning again to inherent higher-level connections, the completion of the third member of a descending series of rising thirds in the treble is delayed (C[#]-E, B-D, and finally A-(B)-C[#], and so is the third note of a complementary upper line descent begun back in m. 1, E-D-C[#]. Paradoxically, then, the C[#] has also a quality of being too late, making it strongly expected.

As a result of the delay of especially the rising third A-C[#], the listener feels that the unit under way will be stretched to double size, and he or she is also able to envisage the proportions and balanced make-up of the emerging 1+1+2 hierarchy of units. The final dominant chord B/G[#]/E is not only harmonically expected, but also (weakly) anticipated as the late final member of three concurrent descending fourths begun in m. 1 from E, C[#], and A, respectively.

Mozart, Piano Sonata in A Major, KV 331; theme of first movement
 (Example reprinted with kind permission from G. Henle Verlag ©)

In the consequent half-period m. 7 brings an interesting deviation. In comparison to m. 3 the returning motion to C# is reshaped to take only half the time— though they take us to the tonic, mm. 5–8 are considerably shorter than mm. 1–4, phenomenologically speaking. This means, on the other hand, that the duration of the inherent rising third A(B)–C# is adjusted so as to fit with the pace of the previous members of the chain, and also that the upper inherent line from E arrives at C# in due time. The C# in the middle of m. 7 is thus no less anticipated than the C# at the beginning of m. 4, but the means are subtly different. Due to the similarity and the identical position, there is clearly a network correspondence involving model and copy, analytically speaking, but it gives rise neither to a prospective anticipation, nor to a past-tense one, since m. 3 cannot reasonably be heard as, or even retroactively be taken for, a triggering event with respect to m. 7. The listener, startled by the unexpected quick melodic rise in m. 7, will rather apprehend a quality of factual anticipation in the C#, urging the conclusion of the period, but the identification of the swift A(B)–C# gesture as a deviation from the tranquil A–(B)–C# motion in m. 3 is bound to be made slightly after the fact.

M. 7 may thus be understood as a shortened variant of m. 3, both of which float up to C#, restoring the starting point of the inherent lower line C#–B–A, but it might also be heard as a fresh gesture that with some determination issues from A. And it seems that the performer can easily tip the perception over in favour of this latter option by rendering m. 7 more decisive than tradition bids — this sounds quite natural since the motion up to C# is quicker than the one in mm. 3–4. Indeed, the pianist may choose to play the slower ascent in m. 3 in a more resolute manner as well, which amounts to something like a factual anticipation in the interpretational domain — the rendering chosen as appropriate for m. 7 is applied prematurely in m. 3 — and may appear slightly against the grain in m. 3. (A long-term “strategic” reason can be given in support for this interpretation, however; cf. below.) Turning to the listener, this way of playing, suggesting a kind of intentional interference in the musical process, strengthens the network association and gives, if only retrospectively, a hint that m. 3 may have been a triggering event — a past-tense anticipation.

M. 9 brings a deviation from the melodic model, but the fact that the phrase is compressed to just a rising second should not be presented as a surprise. The pianist must prepare for this intensification before it is disclosed by the melody itself by heightening the expression already during the first three notes. (This interpretative anticipation is also desirable, indeed necessary, from another perspective: it highlights the fact that the tonal focus of the melody is raised from C# to E.)

The unexpected occurrence of the shortened A(B)–C# variant already in m. 15 means that an anticipation to the effect that mm. 1–8 are about to be

restated, is frustrated, and this in turn generates an altered notion of the hierarchical design of the passage under way — one might vaguely feel that the four-bar unit has to be stretched. And an ensuing expansion is what m. 16 announces in a most extraordinary way: first the entirely surprising clash between right-hand dominant and left-hand tonic, then the rising resolution.

The second right-hand chord in m. 16 is apparently the resolution of the preceding six-four sonority, but retrospectively, when we have heard this dominant chord repeated at the strong beat, it emerges as a factual harmonic anticipation, an impression that can be supported, made present-tense, if the player stresses the second chord ever so little. This device is immediately applied once again: the final rising inflection in the right hand is much less a resolution of the sharp dissonance, than a factual anticipation of the chord at the ensuing tonic downbeat. But this twist of meaning is hardly retrospective — due to the exceptional nature of the formulation, the option to construe of the last event in m. 16 as a factual anticipation is likely to present itself immediately. However, this anacrustic gesture is acutely anticipative in prospective sense as well, and it is instrumental in merging the coda with the preceding section, giving rise to a final expanded six-bar unit that restores a sense of balance in the theme.

But the passage mm. 17–18 is more than an appendix. Seamlessly forged with the preceding bar, it concurrently signals a new start. (It can be argued that it represents the fourth, shortened and varied, entry of the main thematic material — this relationship comes clearly to the fore in the variations.) However, what the listener hears is perhaps rather that m. 17 mimicks m. 15 with raised pitch, an association that the pianist can suggest by playing m. 15 in a determined manner anticipating the *forte* to come. Thus, if the interpretation invites to it, a network of associations, giving rise to past-tense (but nevertheless prospective) anticipations, may span the entire theme from m. 3, via mm. 7 and 15 to m. 17. This means that the descending tendency of mm. 1–2, 5–6, and 13–14 is counterbalanced and finally overcome by a crowning rise. For there can be no doubt that the high A in m. 17 is a factual melodic anticipation, and that the cadencing low right-hand A's in m. 18 represent the eighth degree in tonal terms.

Finally, two examples of anticipations worked out on a broader canvas should be cited. Beethoven supplies a bold and yet very subtle specimen in the first movement of his Violin Concerto Op. 61. The effect in question has been carefully analysed structurally and phenomenologically by Dubiel (1996); what follows is a brief account bringing out the main points relevant in the present context.

The orchestral exposition begins with five tonic D's in the timpani, and this pattern is repeated in m. 5, featuring five dominant A's. At this stage the listener will understand that the five D's were not just an introductory

background for the woodwind tune, but a thematic idea: a five-member regular rhythm closing with a downbeat. What happens in m. 10 is entirely unexpected, however: four soft, tonally out-of-place D#'s are heard, and this tonic raised by a semitone, as it were, appears in the first violins, mimicking the timpani in a very strange way. Instead of a fifth downbeat D#, m. 11 brings a dominant seventh chord. This is to some extent a normal continuation — the pitch-class E, to which the preceding D#'s are likely to move, is a member of that chord — but the actual E is displaced one octave too low, and the chord is played by all the other strings in *forte*. There is a strong sense that the first violins have been interrupted, that the motif is incomplete, and that no satisfactory resolution of the strange D#'s has been presented. This odd juxtaposition is immediately repeated in varied, heightened form in mm. 12–13: this time the “resolution chord” is displaced upwards, and the pitch-class E is omitted altogether from the dominant ninth harmony. As if nothing had happened, the music then proceeds with a four-bar concluding phrase cadencing on the tonic.

b.1-6

p timp.

b.10-13

p vl.1
f str.
p vl.2+vla
f str.

b.65-68

pp str.
 cor.

Beethoven, Violin Concerto Op. 61; first mov.
mm. 1-2, 5-6, 10-13, 65-68

But a triggering event, offered twice to be on the safe side, has been planted in the attentive listener's mind. Left in the air is a feeling of suspense, something has been promised but is withheld. The analyst can tell what it is: one expects to hear the motif restored to its rhythmically stable, five-note length, and that the music will come up with a proper way to rid itself of the D#'s. The listeners, however, are just aware of a feeling that something is "wrong"; but they are aroused, and however vague their idea of the satisfying event may be, their attention is directed towards finding it.

And after a long while — interspersed are among other things a vigorous B^b-major outburst and the entire second theme episode — a doubled event turns up that fits so well that it cannot but associate back to the two triggering events. Mm. 65 and 67 bring soft diminished seventh chords, containing four D#'s, and four C#'s and four F#'s to go with them, chords that are smoothly led a half-step upwards to dominant seventh chords, a parallel motion issuing on E, C#, and G. A prospective anticipation, fed by vague expectation and activated by retrospective recognition, and spanning almost the entire exposition, has finally been closed, and as a confirmation that this huge detour is over, the music then grows into an emphatic cadence, an expansion that is prepared for by the pent-up energy in mm. 65–68.

In Schumann's Piano Concerto Op. 54, the Intermezzo movement finally looses itself in ever more sparse motivic particles, until a motif from the main theme of the first movement (cf. m. 4) is twice cited in the woodwinds, the first time changed to A major (m. 103), the second time, replacing longing for a plaintive touch, restored to A minor (m. 105). The two *ritardando* citations are separated by dreaming veils in the solo part. In mm. 107–108 this motivic recurrence is condensed: two A-major statements are heard, and the second one is to be played very urgently (*crescendo* and *stringendo*). The lively finale immediately ensues. But what the piano brings is actually just the first gesture of the finale theme, which also can be derived back to the main theme of first movement (cf. m. 4 and especially m. 5). The first eight bars turn out to be introductory, and the full finale theme is not heard until m. 9 and is then repeated in m. 25.

The citations in mm. 103, 105, and 107–108 at the end of the Intermezzo are of course not closing events of anticipations, incited by motifs back in the main theme of the first movement, and this goes of course for the motivic allusion beginning the finale as well. However retroactive and past-tense anticipations may sometimes be, these associations make up reminiscences — neither when heard, nor in retrospect, does the main theme of the first movement give any reason to suspect that its motifs are to be used in this way in the second and third movements, and if there are no triggering events there can be no anticipations. The music harks back, and the composer excels in unifying his work by means of thematic transformations. The first

eight bars of the finale, on the other hand, are clearly prospective: when the music turns to introductory cadencing in m. 5, the listener anticipates a more complete thematic statement, and it turns up just in due time.

b.4-7
ww
sf

b.103-108
poco a poco ritard.
mf

b.1-4
a tempo string.
cresc.

**Schumann, Piano Concerto Op. 54, first mov. mm. 4-7,
second mov. mm. 103-108, third mov. mm. 1-4**

But what about mm. 107-108 in the Intermezzo? The music is obviously processive in a very dynamic way. A major is back in m. 107, for good as it turns out, and m. 108 is, as it were, irresistibly attracted by the finale like by a strong magnet: the tempo is steeply increased and so is the dynamic level, and all instruments are brought in. The change of mood is prepared, swiftly anticipated as a flush may shortly precede overt anger, but there is no specific expectation involved and no distinct reference. Mm. 103-106 have a dual meaning. They are not only a reminiscence: their static character sets them off and accumulates tension, and they certainly make up an integral part of this preparative anticipation as the all but necessary first stage, as the contrast of stillness from which the radical shift in mood is born. Take these four bars away, and the remaining two bars of the preparation will lose most of their power.

6 Conclusions

The analysis of the "logic" of anticipation indicated three categories. "Factual" anticipation means that a musical event, whose proper moment of occurrence is safely known, turns up prematurely, is anticipated. Excepting purely conventional harmonic anticipations, factual anticipations may work so as to significantly direct the listener's attention towards future events, and are thus to some extent anticipative in psychological sense. "Prospective" anticipation, on the other hand, is anticipative in the sense that a triggering

event has made the listener envisage the future course of the music with some certainty. Nothing is presented prematurely by the music: it is the listener that entertains the anticipation, and the core of the phenomenon is expectation or foreboding. "Past-tense" anticipation makes up the third category. Nothing is actually anticipated by the listener because no triggering event was noticed. Later on, however, when a further event has occurred that invites or even demands to be understood as related to, as being held out in prospect by, a certain earlier event, the previous passage is reactivated in memory, and its triggering potential is detected. The anticipation is thus established in retrospect, after the fact.

While listening is the paradigmatic mode of musical engagement as far as anticipation is concerned, it was established that it is necessary to consider reading and performing as well for a full understanding of the phenomenon. The reading analyst, unimpeded by the limitations of memory and with free access to future events, can detect more anticipative (or quasi-anticipative) relationships than any listener can appreciate. Performance in artistic sense involves mediating the musical structure to listeners, and interpretation may entail both suppressing and bringing out anticipations inherent in the text.

Turning to the structural mechanisms involved and their concomitant options of cognition, six types of anticipation were proposed. The fact that music appears to be continuously coherent gives rise to a more or less conscious stream of short-range anticipations — or to quite extended and intense states of anticipative tension, if the music is designed so as to emerge as a gradual or static preparation for events to come. Segmentation in music makes it possible to anticipate entire units in some detail, and especially to envisage the size of units to come and the exact timing of salient future events. Hierarchic structure seems to be relevant for anticipation in two ways. The evolving hierarchy of structural units may lead the listener to predict the properties of fairly large portions of music. Some events may be selected from the musical surface, and when joined to form extended inherent connections, a higher-level continuity emerges that invites to envisaging of distant goals. Finally a composition may exhibit a network of associations binding together even widely separated events which sometimes seem to refer to each other in anticipative terms.

Anticipation appears to be a most valuable, indeed indispensable concept when it comes to analysis of musical structure with the intent to describe how music apprehension works. It will also have been evident from the examples that no matter what categories and types of anticipation you propound, artistic practice will always come up with fresh applications and unforeseen combinations of devices that transcend the imposed order.

Musical anticipation no doubt represents an intricate object of study in cognitive science. The inventory proposed here suggests the complex ramifications of the phenomenon. It is necessary not only to distinguish

between various "logical" categories of anticipation, and between different types of anticipation according to the kind of structural understanding involved; it is also of vital importance to capture the interplay of prospective and retrospective meaning within this peculiar sort of self-reference as it applies to listening, reading, and performing, as well as to ascertain the workings and range of recall and expectation.

References

Since anticipation as understood in this paper is a very frequent musical feature, which has often been discussed under various headings in the analytical literature, it has become an integral part of this author's musical thinking, an element for which it is impossible to give any exact, let alone exhaustive, references. The writings of Leonard B. Meyer and Eugene Narmour, in which the workings of implication (or expectation) in music are studied, have of course been a major source of ideas. In addition it must suffice to acknowledge a debt to another inspiration that turned up while preparing this very paper.

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