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Chapter II

Foundations of Lussy's Theory of Rhythm and Expression

Lussy's theory of musical expression stands at the crossroads of the developments that took place in music-theoretical thinking during the earlier part of the nineteenth century, and the new currents that were emerging in the discipline of psychology towards the beginning of the twentieth century. On the one hand, it takes over the nineteenth-century argument for the autonomy of the musical faculty by making the musical experience dependent upon previous knowledge; on the other hand, by maintaining universal principles that govern the cognitive and affective dimensions of music perception, it anticipates the emphasis on the unity and systematization of the seemingly diverse functions of the mind by the new psychological thinking, which in a matter of few decades would evolve into the school of thought known as Gestalt psychology.

There are two fundamental assumptions behind Lussy's theory of musical expression: that the musical faculty partakes in the basic organizational principles of the mind; and that the listener brings his knowledge of the structural principles of the particular idiom to which he is exposed to subsequent listening experiences. The first set of principles is innate and universal; the second is culturally learned. The listener's cognitive and affective involvement with music requires the employment of both.

According to Lussy's theory, there are two basic innate principles that govern the human mind, and they derive from man's need to understand and control nature. One is the constant tendency to impart order and unity to the perceptual experiences. Lussy writes that "man is born with [these] aesthetic inclinations; he carries in him the feeling for beauty, the need for measure, regularity, order, [and] symmetry."1 His making sense of the world is a function of his innate capacity to integrate the incessant inflow of sensory data into unified and ordered perceptual wholes. Lussy argues that the need for order and regularity are "cognate in man; they

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1 "L'homme nait avec des penchants esthétiques; il porte en lui le sentiment du beau, le besoin de mesure, de régularité, d'ordre, de symétrie." Traité, p.168.
are unavoidable. They make up an integral part of the psychology of all peoples."\(^2\)

The second organizational principle arises from the need for periodic repose, which is common to all activities of the mind and of the body. According to Lussy, "man cannot continue to make an effort unless pauses, from distance to distance, are given to the body, with repose."\(^3\) In this connection, Lussy makes a distinction between repose and the mere cessation or interruption of activity. For there to be experience of repose, the foregoing activity must be perceived as leading to it; in other words, the inherent energy that sustains the process of the activity must exhaust itself before the energy required for another phase of activity is accumulated during repose. This indeed is the case in all natural processes, an instance of which is the daily need for sleep in animals and man. Repose, as conceptualized by Lussy, is thus the most fundamental principle of meaningfulness: a given moment or time-span that is experienced as prepared or led-into renders the prior temporal units meaningful, and hence guarantees their comprehensibility. The feature of "directionality" essential for defining repose appears as the most important element the human mind seeks in making sense of temporal structures. Indeed, the functioning of the principle of order and unity can be regarded as dependent on the principle of repose, which serves to unify temporal units for the perceiver.

Tonality as a system is the manifestation of the principle of repose. According to Lussy, tones have various degrees of attractions between them. Whenever the mind perceives two tones it establishes a hierarchy and subordinates one to the other: the one subordinated to is associated with tonal repose. Thus, tonal attractions function to set up the distinction between musical action and musical repose. Lussy argues that the tonic in this system is the ultimate repose-creating element. He writes: "the tonic in music plays the same role the sun does in the planetary system. All the notes turn around and converge towards it."\(^4\) The analogy

\(^2\) "Ces besoins sont congénérés à l'homme, indélétables. Chez tous les peuples, elles font partie intégrante de leur être psychique." In "De la culture du sentiment musical," p.17.

\(^3\) "L'homme ne peut faire un effort de quelque durée si des arrêts ne viennent, de distance en distance, fournir à son esprit, à son sentiment, aussi bien qu'à son corps le repos dont il ne peut se passer." In "De la culture du sentiment musical," p.15.

\(^4\) "La tonique joue dans la musique le même rôle que le soleil dans le système planétaire. Toutes les notes tournent autour d'elle et y convergent." In "De la culture du sentiment musicale," p.11.
Lussy establishes with the solar system in explaining the repose-providing function of the tonic is based on an important assumption: that the mind somehow associates repose with stability, and that the element of repose is at the same time an element that sustains a dynamic system in a balanced, stable state.\textsuperscript{5}

According to Lussy's theory, the sense-units of the musical syntax are defined through the tonal attractions that subordinate a group of notes to a relatively more "reposeful" or stable tone. Lussy writes that

the attractions and affinities immanent in these molecules attract them to one another, coordinate, discipline and saturate them, and generate small centers of attraction called motifs or themes. These motifs, in turn, produce larger, more powerful centers of attraction, which follow one another by virtue of a logical link [provided by] a latent, mysterious psychological attraction and affinity. They are called the incise, rhythm, period, phrase, strophe, etc.\textsuperscript{6}

The listener's comprehension of a piece of music, then, depends on his recognition of the degree of directionality towards points of repose displayed by each of these groups, or centers of attraction. Tonality is nothing other than the psychological phenomenon of subordinating tones to one another in terms of the degree of their inherent potentials for action and repose. It refers, according to Lussy, to "the effect [the notes of the diatonic scale] produce on the feelings, to their power of being able to awaken in us the desire to hear a certain sound rather than another one."\textsuperscript{7}

In explaining the psychology of the listening experience, Lussy frequently refers to "the desires of the ear": he employs this notion to account for the listener's recognition and experience of the degree of directionality generated by the tonal attractions. The more directionality

\textsuperscript{5} One of the definitions of the word "repose" is indeed "poise", i.e. a stably balanced state, equilibrium. If stability is regarded as an equilibrium of the forces within a dynamic system, repose as stability would not refer to a state of complete lack of tension, but rather to one of balanced tensions.

\textsuperscript{6} "Les attractions, les affinités, innées, immanentes à ces molécules, les attirent les unes vers les autres, les coordonnent, les disciplinent, les fécondent et engendrent de petits centres d'attractions appelés motifs ou thèmes. Ces motifs produisent, à leur tour, des centres d'attraction plus grands, plus puissants, qui s'enchaînent et se succèdent en vertu d'un lien logique d'attraction et d'affinité psychiques, latentes, mystérieuses. Ils portent les noms d'Incise, de Rythme, de Période, de Phrase, de Strophe, etc." In "De la culture du sentiment musical," p.14.

\textsuperscript{7} "[La] tonalité se rapporte à un fait psychologique, à l'effet que ces notes produisent sur le sentiment, à la faculté qu'elles ont de pouvoir éveiller en nous le désir d'entendre tel son plutôt que tel autre." Traité, p.5.
a group of notes displays, the more desire the mind has for the occurrence of the tonal event the group is directed to; for, the more a tonal event is prepared, the more does the mind judge its attainment probable. Thus, the generation of desire is a function of the foreseeing of its fulfillment through the attainment of the object of desire; the attainment corresponds to the state of repose. A musical phrase is defined by Lussy precisely in these psychological terms. He writes that "a series of rhythmic units the last of which ends with a note that brings the ear the feeling of complete repose forms a musical phrase." The final note is, accordingly,

the pivot, the keystone of the whole musical phrase. All the attractions are directed towards it and all the aspirations are appeased there. Insofar as any desires remain for the ear, insofar as it requires [another] series of sounds, there is no complete ending. A musical phrase is not terminated unless its last note fully satisfies all the desires of the ear.9

Lussy is not the first theorist to argue that the listening experience is shaped by psychological principles. Various theorists had already attempted to account for the factors behind the organization of the structural features of music by referring to the psychological need for order, regularity and unity. Koch, for instance, explained the need for metric regularity in melodic constructions by arguing that

when a composition begins with [a given] meter, that is with a fixed movement of the division of the measure, our feeling accepts this type of movement very easily and as it were, settles itself in it. It is, however, immediately offended when this movement is interrupted in its flow by another dissimilar one, because it must then accommodate itself to another movement too quickly and too unexpectedly.10

In defining the function of the tonic, Gottfried Weber similarly referred to the need for unity. He wrote:

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8 "Une suite de rhytmes, dont la dernier est terminé par un son qui appore à l'oreille le sentiment du repos final complet, forme une phrase musicale." Traité, p.51.
9 "La note finale est, pour ainsi dire, le pivot, la clef de voûte de toute la phrase musicale. Toutes les attractions viennent s'y concentrer, toutes les aspirations viennent s'y éteindre. Tant que l'oreille conserve un désir, tant qu'elle appelle une suite de sons, il n'y a pas de fin complète. Une phrase musicale n'est définitivement terminée que si sa dernière note satisfait pleinement tous les désirs de l'oreille." Traité, p.131.

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When our ear perceives a succession of tones and harmonies, it naturally endeavors to find, amidst this multiplicity and variety, an internal connection—a relationship to a common central point. For, as in every art, the mind spontaneously desires to find a certain unity in the multiplicity—a centrality of the manifold parts, so it does here. The ear everywhere longs to perceive some tone as a principal and central tone, some harmony as a principal harmony, around which the others revolve.  

The novelty of Lussy’s theory comes from his explicit recognition of an essential link between the organizational principles of the mind and the artistic structures man creates: accordingly, the human mind can form such structures only in accordance with the operational principles with which it is equipped. Hence, Lussy writes that the artist, in creating his works,

is enslaved. He has no freedom other than observing the laws that the Creator has imposed. If the artist strays from them, if he violates these laws, he produces [something] false [and] ugly. All artistic education, all teaching has no other purpose than making these laws known [to the student], leading him to cultivate, strengthen [and] rectify his innate dispositions, so as to set him to carry out by himself what he glimpses, in conformity with these laws.

All artistic creations are, accordingly, constrained by the particular perceptual systems creating them, and rules of art evolve out of the intuitively applied innate principles of the mind. In reply to those who argue that any rule for composing and performing music would prevent the free manifestation of expression, Lussy writes: “Lucky musician who only has to obey the laws that govern the very essence of music as it governs all things. For all science, all art, have their laws always conforming to the nature of things and to the relationships they have with our understanding.”

Hence, the differences in the musical systems created by various peoples issue, according to Lussy, from cultural, political, religious,
etc., factors and not from any fundamental conflict in the way music is created, heard and understood. It just so happens that as it developed, the Western tonal idiom came to reinforce the innate organizational principles of the mind, creating a musical logic that is “extremely prompt, yet tight and routine.” One could in fact argue that it created this logic partly to satisfy the mind’s need for regularity, unity and repose.

One of the basic assumptions behind Lussy’s theory of musical expression is that listeners exposed to the Western tonal idiom develop a knowledge of its structural principles, i.e. of the principles of tonality, meter, and rhythm. According to Lussy, this knowledge, which accompanies each new listening experience, establishes “in our ear the triple desire to hear such and such [a note] in preference to another, especially for the final one; to perceive regularly a stronger note; [and] to foretell, to predict a certain symmetry in the arrangement of the notes that constitute the successive groups.” Indeed, these learned principles can be so ingrained in the musical faculty of the listener that when their operation becomes unrecognizable, the result would be the incomprehensibility of music. This, according to Lussy, is precisely the condition of certain contemporary compositions, which present to the ear a succession of uninterrupted motifs that are imposed [rather than desired by logic, i.e. by the attractions of the preceding notes]. There is no more resolution of dissonant chords, no symmetry of periods, no phrases, no respite or repose up till the moment when the composer wishes to stop. The listener, then, leaves the ball panting, exhausted by the excessive tension in his ears and by the useless effort that his mind made to grasp and understand the meaning contained in this feverish, furious ride of motifs and of rhythmic groups without any reference points, any repetition of phrases or strophes. According to us, these are transitional works preparing something that our perspective (mentalités), shaped by classical and romantic music, will understand only by difficulty.

14 “... une logique extrêmement prompte, mais étroite et routinière.” Traité, p.6.
15 “La musique moderne a inculqué à notre oreille le triple désir: 1) D’entendre tel son de préférence à tel autre, surtout pour note finale; 2) De percevoir régulièrement un son fort; 3) De pressentir, d’entrevoir une certaine symétrie dans l’arrangement des sons qui constituent les groupes successifs.” Traité, p.6.
16 “Elles offrent à l’oreille une enfilade, non interrompue, des motifs, imposés, non désirés par la logique, c’est-à-dire par les attractions des notes précédents. Plus de résolution d’accords dissonnants, plus de carrure de périodes, plus de phrases, plus de trêve ni de repos, jusqu’au moment où il plaît au compositeur de s’arrêter. Alors l’auditeur quitte la salle, haletant, brisé de fatigue occasionnée par la tension excessive de son oreille et par l’effort inutile, qu’a fait son esprit pour saisir et comprendre le sens contenu dans cette chevauchée enfiévrée, furibonde de motifs et de groupes successifs.” La musique moderne p.6.
Unfortunately, Lussy does not provide any names of either the composers or of the compositions in question. He only adds that these works are most probably comprehensible to their composers. Yet, unless communicated successfully, private meanings remain private, i.e. in accessible.

The listening experience, according to Lussy's theory, is an interplay between the learned principles of the musical idiom and the structural particularities of the specific piece in question. In this sense, the surface of the music as it unfolds is experienced against a background of structural expectations. Comprehending the musical logic has to do with recognizing the degree to which the desired tonal events, i.e. the events that are judged to be prepared by the previous events, are attained or eluded. Lussy argues that

having scarcely perceived a series of sounds subjugated to the laws of tonality, measure and rhythm, the ear anticipates and desires the succession of a similar group in the same key and mode, having the same disposition of notes. But most often, the ear is led astray in its expectations. Often the expected group involves either notes foreign to the key or mode of the preceding group, which consequently are prone to displace the tonic or change the mode; or [it includes] asymmetrical notes having the potential to break the regularity of the measure, to destroy the symmetry of the original rhythmic design. 17

According to Lussy, when the mind encounters these foreign elements, it always trends towards assimilation, and attempts to integrate them into the established order. In other words, the mind always seeks an interpretation that will continue to render prior temporal units comprehensible. In this connection, Lussy alludes to a psychological effort involved in the process of assimilation and interpretation. Accordingly, the psychological effort the mind makes to assimilate the unexpected elements is proportional to the degree to which it regards them as foreign to the previous

motifs et de groupes rythmiques sans point de repère, sans reprise de phrase ni de strophe. Selon nous, ce sont des œuvres de transition qui préparent quelque chose que notre mentalité, formée par la musique classique et romantique, ne comprendra que difficilement." In "De la culture du sentiment musical," p.16.

17 "A peine l'oreille a-t-elle perçu une suite de sons assujettis aux lois de la tonalité, de la mesure et du rythme, qu'elle préjuge et désire la succession d'un groupe analogue dans la même gamme, dans le même mode et avec la même disposition de notes. Mais le plus souvent l'oreille est trompée dans son attente. Souvent le groupe attendu renferme soit des notes étrangères à la gamme et au mode du groupe précédent, et susceptibles, par conséquent, de déplacer la tonique ou de changer le mode, soit des notes asymétriques, capables de briser la régularité de la mesure et de rompre la symétrie du dessin primitif du rythme." Traité, p.7.
order. In reference to the experience of modulation, for instance, Lussy writes that when the shift in tonal center is perceived,

the feeling does not yield to the attraction of the new tonic without at first opposing it [with] a certain resistance. Before all else, it seeks to hold on to the initial tonic and abandons it only when, willy-nilly, it is enthrall ed and drawn into the orbit of the new tonic. The further removed [the new tonic is], i.e. the more numerous the foreign notes brought in by the new scale are, the more effort does the modulation demand.18

An explanation of modulation in similar psychological terms had earlier been given by Gottfried Weber who argued that “the ear, once attuned to a particular key, does not change its state of attunement into that of another key without sufficient cause.”19

However, Lussy does not mention Weber. The only author he quotes at length with regard to the way the listener experiences modulation is Pierre Galin, who—writing at about the same time as Weber—made use of the idea of retrospective hearing in order to analyze how the mind makes a decision about the tonality of a melody.20 In his Exposition d’une nouvelle méthode,21 Galin writes that

the ear never assumes the change [implied by] a modulation without absolute necessity. For if, having assumed a certain tonic in the first measures of a melody, it discovers another one for the following measures, to which the first measures could fit, it modifies its first hypothesis; so that if one repeats the melody after this [initial] attempt, this time the ear picks out, from the beginning, the impression of that tonic which fits the greatest possible number of measures.22

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18 “Le sentiment ne cède à l’attraction de la nouvelle tonique, qu’après lui avoir d’abord opposé une certaine résistance. Avant tout, il cherche à se ramper à la tonique initiale et ne l’abandonne que subjugué et entraîné, bon gré mal gré, dans l’orbite de la tonique nouvelle. Plus celle-ci est éloignée, c’est-à-dire plus la gamme qui succède à celle que l’on quitte amène de notes étrangères à la première, et plus la modulation exige d’efforts.” Traité, p.104.


20 Pierre Galin (1786–1821) was a French mathematics teacher, who developed a sight-singing method based on the figure-notation proposed by Rousseau.


22 Ibid., p.180.

23 Ibid., p.184.
According to Galin, when the listener hears the beginning of the melody shown in figure 2.1, his impression concerning the underlying key is most probably that of C major; so far, there is nothing in the melody to indicate the alternative key of A minor.

![Figure 2.1](image)

If, Galin states, the melody is continued as in figure 2.2, the last two measures catch the ear by surprise. Unable to reconcile the key of C major with these two measures, it instead attempts to reconcile the first five measures with the key of A minor. In so doing, the ear recognizes a unity in these seven measures; thus satisfied, it decides that the whole phrase is in A minor. Galin writes: "every time the key becomes indeterminate, the ear is agonized."\(^{23}\)

![Figure 2.2](image)

According to Lussy, not only the tonal but also the metric and rhythmic parameters of the musical structure are subject to psychological processing during the listening experience. He argues that when an irregularity, i.e. an unexpected foreign element, in any of these elements is encountered, the feeling

still under the domination of the attraction exercised by the first tonic, which gave it stability and repose, and under the spell of the initial metric and rhythmic regularity, is not inclined to detach itself from them. It makes an effort to hold on to them and does not accept the notes that tend to tear it away, unless they are, so to speak, imposed on it by the force of sonority. Finally, realizing that these notes are not false, that they tend to form a new scale, a new center of attraction, or bring another rhythmic design, the feeling gives up, and spellbound by their attractive and coercive power, accepts the new tonic and immerses in the

\(^{23}\) Ibid., p.184.
mold of the new rhythmic design: it surrenders to the violence and gives way to necessity. 24

The striking element in this formulation is Lussy’s reference to the irregu-
larities, which do not at first appear to fit the established structural
organization, as “violations”. Such violations, accordingly, “appear as
obstacles to [our senses], conflict with and hurt [them].” 25 The listener
experiences them as forces threatening the existing order, as “aesthetic
obstacles” that need to be overcome.

This reasoning is very much in line with the arguments of Gestalt
psychology for the inherent comprehensibility of organizations that
display “good shape,” and the mind’s constant pursuit of such organizations.
Indeed, the last few decades of the nineteenth century—the period when
Lussy was active as a theorist—are considered to constitute the first
formulations of the ideas and principles of Gestalt psychology, by writers
such as Stumpf and Husserl, who—though not officially belonging to
the school identified with Gestalt—contributed towards preparing its
philosophical background, as well as the first experiments on Gestalt
perception. However, the inauguration of Gestalt psychology is commonly
attributed to the publication of Christian von Ehrenfels’ article
“On Gestalt Qualities” in 1890, where Ehrenfels argued for the perceptual
reality of Gestalten in reference to the experience of a melody as a
phenomenal whole qualitatively distinct from the sum of its individual
tones. 26 The Gestalt school was decisively established in 1920s by the
publications of its members Wertheimer, Köhler, Koffka and Lewin. Thus
decades later Koffka would rearticulate Lussy’s theory in arguing that

good continuation and good shape are powerful organizing factors, and both are
in the true sense “understandable”: a line carries its own law within itself, and

24 “Encore sous l’empire de l’attraction exercée par la tonique première, qui lui
donnait fixité et repos, et sous le charme de la régularité métrique et rythmique
initiales, le sentiment n’est pas disposé à s’en détacher. Il fait des efforts pour s’y
 cramponner et n’accepter les notes qui tendent à l’en arracher que si celles-ci lui
sont pour ainsi dire imposées à force de soi-disant. Enfin, sentant que ces notes ne
sont pas fausses, mais qu’elles tendent seulement à former une nouvelle gamme, un
nouveau centre d’attraction, ou à amener un autre dessin rythmique, le sentiment
céde et accepte la tonique nouvelle et se fond dans le moule du dessin rythmique
nouveau, subjugué par leur puissance attractive et coécrive: il subit la violence
et s’abandonne à la nécessité.” In “De la culture du sentiment musical,” p.14.
25 “Elles se présentent à lui [le sentiment] comme des obstacles, le heurtent et le
blessent.” In “De la culture du sentiment musical,” p.13.
26 Ehrenfels, Christian von. “Über Gestaltqualitäten.” Vierteljahresschrift für wis-

so does our sense, and that beauty arises well.

Lussy’s own writing, and the work of “bonne” poets whoread the
metric and the sentence as if it results from an organization, and coin
acents to measure and accentuate the rhythm of the text into a single
language whole, is one of the forces that would be.” The
influence of Gestalt perception on the art of Péguy was widely

28 The definition of structure is fundamental to the
coherence of this chapter and can be
found in Lussy’s own work.
29 “Où trouve-t-on le concordance, cum seque quia
puissant du sentiment,” p. 29.
30 The four authors of Gestalt psychology:
Wertheimer, Köhler, Lewin, and
Koffka, are all associated with

so does a shaped area or volume. Violations of this law due to external forces are felt as violations; they conflict with our feelings of the fit, hurt our sense of beauty.27

Lussy's orientation towards Gestalt thinking is also manifest in his theory of "bonne mesure". A *bonne mesure* is a musical measure in which the metric and rhythmic accents coincide:28 It is an ideal temporal unit that results from the congruence of diverse forces that shape the musical structure. Its origin, according to Lussy, is "in the fusion, in the agreement and coincidence of the elements of force" that the metric and rhythmic accents present.29 Fusion as a concept was introduced into music psychology by Stumpf in order to explain the nature of the perception of consonance and dissonance: the more two tones are perceived as "fused" into a single tone, Stumpf argued, the more consonant they are judged to be. The implication of this theory for the wholeness of the phenomenal experience, as opposed to the atomistic interpretation, which explained perception as an additive phenomenon composed of elementary qualities, was widely accepted by the Gestalt school.30

Lussy's description of the perception of a *bonne mesure* as a phenomenal whole in this sense comes close to the descriptions, given by later Gestalt psychologists, of structures that display "good shape": these are accordingly very stable organizations resulting from the collaboration of "forces that act in the same direction."31 They present the maximum utilization of the shaping forces in the least conflicting way: they hence appear as "natural", unforced structures, immediately intelligible and pleasing to the mind. The *bonne mesure*, like a "good shape," creates "cohesion, clarity, comprehension. From the harmony of diverse elements arises well-being and pleasure. The mind is no longer vexed; it is at ease.

28 The definitions of metric and rhythmic accents, as well as the explanation of the structural properties of a *bonne mesure* are given in Chapter III. For the purposes of this chapter, it will be sufficient to state the network of concepts within which Lussy discusses the idea of a *bonne mesure*.
29 "Où trouver l'origine de la *bonne mesure*? Précisément dans la fusion, dans la concordance ou coïncidence des éléments de force qu'offrent les thèses et les actus qui marquent et déliminent les mesures et les rythmes." In "De la culture du sentiment musical," p.36.
30 The founding members of the Gestalt school, Wertheimer, Köhler, Koffka and Lewin, all studied with Stumpf.
It feels and understands."32 Lussy's account of the moment of perception of this ideal structure is similar to the explanations of problem-solving given by Gestaltists, who claim that the mind arrives at solutions by a process of integration, that is by responding to a whole system of clues as if "in one glance," in a flash of insight – rather than adding one clue to another. Thus, Lussy writes:

when the metric and rhythmic accents fall on the same note, they impart to it an astonishing psychological and intellectual significance. From this coupling of accents results an effluence, a beam of intellectual light and clarity, which with flashing force, speed and spontaneity invades understanding and feeling.33

Lussy's account of the violations of an established musical order by reference to "the desires of the ear" is not merely a product of figurative language. The notion of desire and the psychological mechanism behind it play the central role in his theory, since the source of the listener's affective response to music is precisely the violating irregularities that temporarily conflict with the desires occasioned by the music. Lussy indeed refers to such irregularities as pathétique events, i.e. events that move and stir the emotions and the passions. Hence, affective response to music originates in the listener's perception of tonal, metric and rhythmic irregularities that are judged as forces operating against the desires of the ear. Lussy writes that

the musical faculty, engrained with the need for attraction, regularity and symmetry, is astonished [and] disoriented by these unexpected foreign notes. They mislead its expectations, baffle its sense of logic, hinder and paralyze its regular, uniform, routine course. It is precisely these exceptions, exceptional notes outside of musical logic that most particularly have the power of making an impression on the feelings.34

32 "Il en résulte unité entre la mesure et le rythme; cohésion, clarté, compréhension. De cette harmonie d'éléments divers découlent bien-être et détélévation; l'âme n'est plus tirillée; elle est à l'aise; elle sent et comprend." Le rythme, p.16.
33 "Quand les accents métriques et rhythmiques tombent simultanément sur une même note, ils lui communiquent une portée, une essence intellectuelle et psychique étonnante. De cet accouplement d'accents il résulte un éclat, un rayon de lumière et de clarté intellectuelles qui, avec une force, une vitesse et une spontanéité fulgurantes, envahissent l'entendement et le sentiment." In "De la culture du sentiment musical," p.37.
34 "Le sentiment pénétré du besoin d'attraction, de régularité et de symétrie est étonné, désorienté par ces notes imprévues, étranges. Elles trompent son attente, confondent sa logique, gênent et paralysent sa marche régulière, uniforme, routinière. Ce sont précisément ces notes imprévues, irrégulières, exceptionnelles, en dehors de la logique musicale, qui ont plus particulièrement la faculté d'impressionner le sentiment." Traité, p.7.
The association of the conative and the affective faculties of the mind goes back as far as Aristotle. However, the establishment of an essential relation between them took place in the theories of emotions that were developed during the last few decades of the nineteenth century, particularly by the French psychologists Paulhan and Ribot. According to Paulhan’s main thesis, put forward in *The Laws of Feeling* (1887), emotions result from the arrest of a tendency such that the natural progression of an impulse towards action is disturbed due to the liberating of psychical energy that cannot be expended in a harmonious and systematic fashion. Paulhan writes: “Whatever affective phenomena we take, we can observe the same fact: the arrest of a tendency [which] cannot terminate as it would if the organization of the phenomena were complete, if there were full harmony between the organism or its parts and their conditions of existence.”35 Expressing his general agreement with Paulhan’s views, Ribot, in his *Psychologie des sentiments* of 1897, similarly argues that “the fundamental and irreducible fact at the root of all emotion [is] attraction or repulsion, desire or aversion, in short motion or arrest of motion.”36

This very same hypothesis forms the basis of one of the most widely accepted theories of affective response to music proposed during the twentieth century, namely the expectation-theory of Leonard Meyer, put forward in his *Emotion and Meaning in Music* of 1956.37 According to Meyer, “affect or emotion-felt is aroused when an expectation – a tendency to respond – activated by the musical stimulus situation, is temporarily inhibited or permanently blocked.”38 Following Paulhan, Meyer defines a tendency as a pattern reaction which – once started – follows a previously ordered course.39

Meyer’s theory, though currently retaining its validity in music theory, has important shortcomings. One of them concerns the relationship between the affective and cognitive processes taking place during the

39 Meyer acknowledges Paulhan’s theory as a “brilliant” contribution to affective psychology.
listening experience. According to Meyer's theory, when a musical event deviates from the expected course, this inhibits the listener's tendencies or reaction patterns formed through habit. The resulting affect or emotion is essentially the subjective experience of this inhibition. Meyer argues that as soon as the inhibiting event is experienced, together with the affect, a cognitive processing takes place. Accordingly, the listener, in an attempt to fit the unexpected event into the general system of beliefs related to the style of the work in question, goes through a very rapid re-evaluation of the musical situation. Recent research in affective psychology demonstrates the implausibility of this argument. Psychologists agree that positive and negative affective experiences elicit different cognitive effects in terms of information processing. Accordingly, while positive affects lead to effective cognitive re-structuring of available information through the mobilization of organizing mental resources such as schemas, stereotypes, etc., negative affects very often have a disorganizing impact, especially in the short term. In the words of Lazarus (1994), negative affects interfere with smooth cognitive functioning. Hence, if inhibition is the basic affective state of a listener faced with unexpected musical events, the listening experience, according to Meyer's model, would be characterized by a constant cognitive focusing in and out of the unfolding music: the listener moving from one inhibited state to another would miss the structural information of those time-spans the perception of which is under the disorganizing impact of a previous inhibition.

Another problem related to the idea of inhibition as the essence of affective response to music concerns the functioning of memory in the listening experience. In recent studies of affective psychology, it is generally accepted that one of the basic functions of the emotional system is to signal to the subject's cognitive and action systems the relevance of events in terms of his well-being. One way this function is carried out is that the mental representation of events in memory includes a representation of the affect experienced at the time of the event. In other words, the emotional system assigns valences to the events stored in


41 See, for example, "Emotions are Functional, Most of the Time" by Nico H. Frijda in The Nature of Emotion: Fundamental Questions, pp.112–122.
memory: such that the kinds of events and situations "marked" negatively can be avoided in future. In this sense, Meyer's theory is unable to account for the fact that listeners keep seeking musical experiences, and do not attempt to avoid, for example, deceptive cadences, which presumably are recalled as "inhibiting" events. In fact, the basic psychological mechanism outlined by Meyer, namely expectation-inhibition-satisfaction with reference to the affective experience of music leads to the rather perverse view that music conditions people to expect emotional fulfillment only after an experience of inhibition.

Although Lussy's theory of affective response appears similar to Meyer's in giving the central role to "unexpected" events, there is an important conceptual difference between the two theories. While Meyer speaks of expectations, Lussy speaks of desires. The conceptual distinction between the two mental states is that in the case of expectation the occurrence of the "expected" event is brought about by circumstances or stimuli that are external to the subject. In the case of desire, however, the cause that occasions the "desired" event is internal; in other words, the means towards the attainment of the desired end are provided by the will of the subject. In this sense, one would not speak of "expecting" one's own actions, but of "willing" them. Since Lussy's theory models the listening activity on the affective experiences of the performer, i.e. on emotions experienced during the actual act of "making" the music, it is appropriate that the conceptualization of the psychological mechanism involved would be in terms of desires rather than expectations.

In Lussy's theory, the source of one's affective response is not the "unexpected" event per se, but more precisely the impression the unexpected event makes. In associating impressions with affective response, Lussy in part follows the eighteenth century tradition, which allowed genuine passions to arise only from the impressions received directly from the music during the listening experience. However, his theory differs from the earlier ones in two significant respects: first, musical impressions, which are now claimed to depend particularly on irregular events, are in this sense strictly context-dependent, since to recognize an event as irregular and unexpected is necessarily to recognize that it is "irregular in its context." The same event that is a disruptive element in one context may easily blend to the order of another one. Hence, affect appears as a response to a total situation rather than to a single event or fact. In other words, the source of the affective response is an element that is judged as failing to fit a more or less coherently organized whole: awareness of the whole essentially precedes the recognition of the misfit.
More importantly, affective response to music in Lussy's theory always has a cognitive dimension: for it always involves an "awareness" that something is irregular, such as the recognition of a tonal irregularity, or a metric one. A listener who is cognitively unable to seize these irregularities cannot relate to them affectively either. In this sense, the possibility of affective response to music is explicitly dependent upon the listener's previous musical knowledge and experience, i.e. upon the learned principles of structural organization. For identifying a tonal event as going against the desires of the ear requires that one does have such musical desires in the first place, which amounts to the ability to follow the inherent directionality of the tonal attractions towards points of repose. The stronger the listener's sense of directionality, the more perceptive he would be of the elements that obstruct the course of the tones. Thus, the listener can respond to music affectively to the degree he comprehends its logic. Indeed for Lussy, much in the spirit of the eighteenth-century theorists, it is the existence of the affective response that would constitute the criterion for validating one's comprehension of the musical language. For, as he argues, the musical faculty "is not only the faculty of perceiving keenly the phenomena of tonality, modality, measure and rhythm; it is, above all, the extreme susceptibility, extreme sensitivity to perceiving the slightest tonal, modal, metric and rhythmic irregularities."\(^\text{42}\)

In Lussy's theory, the only defining feature of the experienced affect is its subjective intensity. There is no indication that this experience is associated with negative valence: his references to "conflict, baffled logic" vis-à-vis the unexpected event define the cognitive activity, rather than the affective one, which is described in terms of "excitement, agitation, passion." His reference to irregularities as violations that hurt one's sense of harmony implies an aesthetic metaphor rather than an actually "hurting" affective state.

According to Lussy's theory, the intensity of the affective experience is directly related to the amount of cognitive re-structuring an irregularity demands. In other words, not every irregularity is responded to with the same degree of affective intensity. The intensity of the response depends on the psychological energy required to assimilate the violating element into the order; the more effort the mind makes, the more intense is the affect. The effort made by the mind to integrate the unexpected event, in turn, is proportionally correlated, would reflect.

One of the immediate problems for Lussy's approach is determining by what extent unexpected events make up both general and specific sources of the aesthetic experience in this respect.

Lussy's stance is that the aesthetic experience is the same in every century and for every listener in the sense that it constitutes a strictly musical content, i.e. the pathétique as a concept of passion [and] comprehension.\(^\text{43}\) The experience of durational structures is the same and the passions provoked by them have in common:

\[^{42}\] "Le sentiment [musical] n'est donc pas seulement la faculté de sentir vivement les phénomènes de la tonalité, de la modalité, de la mesure et du rythme; c'est surtout l'extrême susceptibilité, l'extrême sensibilité dans la perception des moindres irrégularités tonales, modales, métrologiques et rythmiques." Traité, p.8

\[^{43}\] In "Musical Perception" by Ray Jackendoff, he argues that "knowledge of the expectations the composer sets puts the listener in touch with the way he thought the music would sound. If the expectations are not met, an error is discovered." The experience of unexpectedness may thus be seen as a disruption of the listener's expectation, leading to a sense of dissonance or tension.

in turn, is proportional to the degree the event is perceived as foreign; a completely unfamiliar event, provided that it could somehow be assimilated, would require significantly more effort on the part of the listener. One of the important implications of this idea constitutes a conceptual problem for Lussey's theory: if the intensity of the affective response is determined by the subjectively evaluated degree of foreignness of the unexpected event, why does the intensity of one's responses not decrease in proportion to his increasing knowledge of the structural principles—both general and piece-specific—of music? Any theory that attributes the source of the affective experience solely to the "unexpected" is deficient in this respect.43

Lussey's stance with regard to the expressive status of a musical composition is that of formalism combined with remnants of eighteenth-century aesthetics. He assumes that music does express passions, in the sense that it could be more or less "passionate." These, however, are strictly musical passions caused by tonal and durational irregularities, i.e. the pathétique events, which are "elements of energy, excitement, passion [and] contrast; it is these [irregular] notes that generate expression."44 The expressive content of music is nothing other than its tonal-durational structure, and any similarity between the musical passions and the passions of the soul is limited to rhythmic, i.e. motional qualities they have in common, such as dynamic and temporal shape, speed, etc.

43 In "Musical Parsing and Musical Affect," *Music Perception* 9/2 (1991): 199-230, Ray Jackendoff puts forward a similar argument against Meyer's theory, concluding that "knowing a piece well does not reduce its affect to zero or nearly so, as the expectation theory seems to imply." In order to rectify this difficulty, Jackendoff argues that the cognitive parser of the listener, which derives the abstract musical structures from the surface as the music unfolds, is informationally disconnected from long-term musical memory. In this sense, "no matter how well one knows a piece, expectation, suspense, satisfaction, and surprise still occur within the parser. In essence, the parser is always hearing the piece for the first time—and that is why affect remains intact." This argument, however, does not consider the fact that one of the basic reasons why a listener chooses to rehear a given piece is precisely the affect associated with the prior hearing(s) and stored in musical memory. If the memory of this affect is not somehow communicated to the parser, there would be no qualitative or quantitative difference between the affective experiences generated upon each new hearing of a piece—which certainly is not the case. In this sense, it is difficult to conceptualize a cognitive parser that functions independently of musical memory.

44 "Éléments de force, d'excitation, d'agitation, de chaleur, de contraste, ce sont ces notes qui engendrent l'expression." In "De la culture du sentiment musical," p.13.
For, according to Lussy, it is rhythm—"regulated movement in the truest sense"—that acts as "the mediator between the expressive virtualities of sounds and our understanding and feelings."^{465}

Expression in performance is the externalization of the affective response of the performer in musical behavior. It is "the manifestations of the impressions that are made by the irregular notes, destructive of the key, the mode, the measure and the rhythm, on the feelings: it is the revelation of the struggles and agitations of the soul."^{466} The basic difference in the psychological mechanism generating the performer's as opposed to the listener's affective response is that the former culminates in observable behavior directly affecting the delivery of the music in terms of dynamic intensity and timing. In explaining this mechanism, Lussy makes an analogy to the camera. He writes:

The musical faculty, in its relationship with the notes that generate expression, is similar to a kind of photographic plate. According to its degree of sensitivity, this plate is more or less susceptible to receiving impressions and [in turn] to reflecting them in a more or less powerful and faithful manner. If it is dull, the exceptions, the subtle irregularities will glide by without leaving a trace; only the most energetic ones will be imprinted. If, on the contrary, it happens to be alert, sensitized, the least perceptible irregularities, the most elusive facts will make a clear impression, excite its activity and will be reflected with energy and force.\textsuperscript{47}

This process is not as mechanical as it may appear, however: for the performer's perception of the irregularities is strictly dependent on the learned principles of musical structure. Lussy argues that the performer, who does not feel either the attractions of the tonic, or the need for the regularity of accented notes and symmetry of rhythmic groups, is not

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465 "Le rythme est le médiateur entre les virtualités expressives des sons, notre entendement et notre sentiment," \textit{L'œuvroise}, p.63.

466 "L'expression musicale est la manifestation des impressions que les notes irrégulières, destructrices du ton, du mode, de la mesure et du rythme, produisent sur le sentiment: c'est la révélation des luttes et des agitations dont l'âme est le foyer." \textit{Traité}, p.8.

47 "Le sentiment musical, dans ses rapports avec les notes qui engendrent l'expression, est comme une sorte de plaque photographique. Selon sa sensibilité plus ou moins délicate, cette plaque est plus ou moins susceptible de recevoir l'impression et par contre de la rééchicher d'une manière plus ou moins puissante et fidèle. Si elle est engourdie, les exceptions, les irrégularités délicates glisseront sur elle sans laisser de traces; les plus énergiques s'y imprimeront seules. Si, au contraire, elle se trouve éveillée, sensibilisée, les irrégularités les plus imperceptibles, les faits les plus fugaces s'y imprimeront nettement, exciteront son activité et seront refléchis par elle avec énergie et force." \textit{Traité}, p.9.
affected in any special way by the irregular notes; [he] accepts passively, without resistance, not only the notes most destructive of the key, of the mode and of the measure, but even the most incongruous rhythmic irregularities. Thus he renders them without passion, without energy, without life, without poetry: [for] he cannot express what has not affected (impressionné) him.48

Hence, the two basic factors in the generation of expression in performance are the force, the impact of the tones producing the impression, and the musical knowledge and experience of the performer in handling the irregularities causing the impressions. The third factor, namely, the degree of innate sensitivity — which was at the core of the eighteenth-century accounts of the mechanism of affective response — is not given particular emphasis by Lussy, who simply assumes its essential role in expressive performance. No amount of musical knowledge and experience would suffice to turn one, who lacks sensitivity, into a true musician: for “one is born a poet, becomes a versifier.”49

A good performance, according to Lussy, is comprehensible and expressive. His explanation of the feature of comprehensibility follows the eighteenth-century tradition of establishing analogies with the delivery of the linguistic phrase. An intelligible delivery of the musical and the linguistic phrase requires the separation of the sense-units through accentuation and punctuation, without which “one performs like those who read Latin or any other language without understanding the meaning or the significance of the words.”50 Since in the case of music, the sense-units are inherently determined by the tonal attractions directed towards points of repose, it is important “to group, to accentuate in accordance with the natural tendency of the notes, with the laws of attraction that preside over them and give them a meaning.”51

48 “L’exécutant ne sentant alors ni les attractions de la tonique, ni le besoin de régularité des sons forts et de symétrie des rythmes, n’est pas impressionné non plus d’une manière spéciale par les notes irrégulières, et il accepte passivement, sans résistance, non seulement les notes les plus destructives du ton, du mode et de la mesure, mais encore les irrégularités rythmiques les plus disparates. Aussi les rend-il alors sans chaleur, sans force, sans vie, sans poésie: il ne peut exprimer ce qui ne l’a pas impressionné.” Traité, p.8.
49 “On nait poète, on devient versificateur.” Lanacreuse, p.61.
50 “Sans [l’accentuation rationnelle] on exécute comme certaines personnes lisent latin ou une langue quelconque, sans comprendre le sens ni la portée des mots.” Le rythme, introduction.
51 “Il importe en musique de rhythmer, d’accentuer, selon la tendance naturelle des notes, selon les lois d’attraction qui président à leur groupement et leur donnent un sens.” Traité, p.39.
Lussy, "the more natural this accentuation is, i.e. the more it follows the attractions, the mutual action and reaction between the notes, the more luminous and intelligible the [musical] meaning becomes." 52

Setting off the boundaries of the sense-units through accentuation is not sufficient for the comprehensibility of the performance, however. It is also necessary to direct each unit towards its repose point, that is shape and sustain its internal structure. In this connection, Lussy states that in performance, "all the efforts that the artist makes converge towards the final note of the rhythmic units, periods and phrases. The performer shapes each unit in accordance with its inherent degree of directionality. Indeed, it is the judgement of this degree of directionality that would inform him about his location within the phrase structure. Lussy refers to performers as "psychological barometers par excellence" that reflect the inner dynamics, the inherent tension of sense-units. He also likens the performer to a traveler; accordingly, during his journey, it is "the vision of the desired end, which stimulates all his strength and energy," 53 for without a knowledge of the musical destination, sustaining the energy would not be possible.

Elements of comprehensibility and expression work hand in hand in a good performance: in Lussy's theory, variations in dynamic intensity and tempo in performance, which are the expressive manifestations of the performer's response to tonal, metric and rhythmic irregularities, are conceived as "by-products" of the process of shaping the internal tonal-durational structure of each-phrase. In this sense, the sustaining of the impulse through the irregularities, which makes the performance comprehensible by displaying the inherent directionality of the tones, also renders it expressive.

In Lussy's theory, the voice continues to be the ideal model for expressive performance. He writes that

one must try to imitate and reproduce on the instruments the accentuation and inflections, imposed on the singer by respiration. The human voice is the only instrument to come out of the hands of the Creator; it is the only perfect one. Violinists, pianists, listen to singers: there are your masters of musical diction and accentuation. 54

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52 "Plus cette accentuation est naturelle, calquée sur l'attraction, l'action et réaction mutuelles des notes, plus le sens devient lumineux, accessible à l'intelligence." Traité, p.165.

53 "Son allure ne se ranime qu'avec l'apparition du but désiré, qui excite toutes ses forces, toutes ses énergies." Traité, p.117.

54 "C'est donc l'accentuation et les inflexions imposées aux chanteurs par la respiration, qu'il faut tâcher d'imiter et de reproduire sur les instruments. La voix
In discussing the aesthetic status of the performer, Lussy essentially retains the Romanticist view, which regarded the performer as one giving life to the inanimate matter of music. The tones wait to be “awakened” and set free by the performer. “Certain artists,” Lussy writes, “have the intuition and keen sensitivity enabling them to perceive the impregnations and incitements behind the notes. They possess the means to release the musical idea [from the notes] in order to animate and spiritualize the work they interpret.”

Performance is, therefore, a response to this incitement, to this “call” by the tones. As Lussy states, “musicians hasten, slow down, display energy and passion, or restrain their ardor and prefer delicacy, not because of caprice, but under the irresistible impulsion of certain notes.”

Therefore, the generating cause of these expressive manifestations “resides and must be sought in the contexture of the musical phrase.” The starting point of a theory of performance, then, is the analysis of phrase-structure.

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humaine est le seul instrument sorti des mains du Créateur; c'est le seul parfait. Violonistes, pianistes, écoutez les chanteurs: voilà vos maîtres de diction et d'accentuation musicales.” In “De l'accent esthétique,” p.134.

55 “Certaines artistes ont l'intuition et l'exquise sensibilité, capables de percevoir les phénomènes, les imprégnations et incitations cachés sous les notes. Ils possèdent les moyens d'en dégager la pensée musicale, pour animer et spiritualiser l'œuvre qu'ils interprètent.” In “De la culture du sentiment musical,” p.7.

56 “Les musiciens pressent, ralentissent, déploient de la force, de la chaleur, ou réfrènent leur fougue, et lui préfèrent de la délicatesse, non au gré de leur caprice, mais sous l'impulsion irrésistible de certaines notes.” In “De la culture du sentiment musical,” p.10.

57 “C'est dans la contexture de la phrase musicale, dans les notes, que réside et qu'il faut chercher la cause de l'expression.” Traité, p.2. Lussy consistently uses the word “contexture” rather than structure. The word was very commonly used both in English and in French in the seventeenth century. Although it gradually dropped out of use, it still appears in French music theoretical treatises of the late eighteenth and early nineteenth centuries. The definition given in The Oxford English Dictionary for “contexture” is: (1) the action or process of weaving together or intertwining; the manner in which this is done. (2) the linking together of materials or elements, so as to form a connected structure. (3) weaving together of words, sentences, etc., in connected composition; the construction or composition of a writing as consisting of connected and coherent members.