

## Playing by Ear and the Tip of the Tongue

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## **Volume 14**

Playing by Ear and the Tip of the Tongue. Precategorical information in poetry  
by Reuven Tsur

# Playing by Ear and the Tip of the Tongue

Precategorical information in poetry

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## Preface

This book explores a paradox inherent in poetic language. Language consists of words, that is, semantic categories labelled by clusters of phonetic categories. With such highly “categorical” tools, poetic language is supposed to convey experiences a substantial part of which is precategoryal and nonconceptual. The book explores how poetic language attempts to escape the tyranny of conceptual and phonetic categories. It is an attempt to integrate (with some innovations) what I have said during the years about the rich precategoryal auditory information reverberating in the background while we read poetry, and the literary structures that tend to diffuse semantic information, resulting in some thick, undifferentiated, perceptual qualities. Though at my age I can hardly say anything without relying on my work during the past decades, I feel I have quite a few new insights too. And, I also feel it's time to bring together most of that material into one volume. Initially, I intended to give only a concise summary of certain issues from my book *What Makes Sound Patterns Expressive? – The Poetic Mode of Speech Perception*. However, as it happened, reviewers asked for elucidations precisely at the points where I tried to be most concise. So, I had to expand to some extent my discussion of those issues.



## Introduction

### 1.1 Precategorical information and critical communication

This book is about the processing and “loosening” of phonetic and semantic categories in poetry. It explores how manipulations in a poetic text may render precategorical information available to the reader’s perception, what reasons can be given for the effects of such manipulations, and how can one direct the attention of one’s interlocutor to such precategorical information. It proposes hypotheses based on nonaesthetic experiments by others; but, in itself, is mainly speculative. There is one notable exception: in several chapters I submit certain vocal aspects of poetic language to an instrumental analysis, for which I elaborated a theoretical framework in my books on poetic rhythm and expressive sound patterns. The object of this book is, then, twofold: to explore the problematic relationship between precategorical information and the semantic or phonetic categories in poetry; and to inquire into critical communication: the almost impossible task of communicating one’s precategorical perceptions, for which there is not even a proper metalanguage. The latter point is explicitly discussed, and at great length, in Chapter 13; but in all the chapters an effort is made to create an efficient metalanguage to handle the issue. To put it differently, in order to contrive an experimental study, one must first know what are the qualities and perceptions to be explored in it.

The dictum “*panta rei*” (everything flows) has been attributed to the Greek philosopher Heraclitus. You cannot put your leg twice into the same river, because by the second time it is not the same river anymore. One of his disciples improved on this, claiming that you cannot put your leg into the same river even once, because in the meantime the river changes. The same disciple is reported to have also said that you cannot refer to the same thing twice by the same word, because the thing changes. This disciple pursued this conception to its logical end: he stopped talking. We, of course, categorize the stream of information into relatively clear-cut and stable categories, and name not the changing stream of information, but the relatively stable categories.

We are flooded by a “*pandemonium*” of precategorical sensory information, day by day, moment by moment, which we categorize into a relatively small number of more easily-handled categories for efficient use, which constitute “ordinary

consciousness". Much depends on one's categorization strategy. Rapid categorization has the obvious advantage of allowing fast response to rapidly-changing situations, but at the expense of ignoring much vital precategorical information. Delay in categorization has the advantage of affording access to vital precategorical sensory information, but has the obvious disadvantage of slowing down response.

I propose to introduce my subject through what Hartvig Dahl called the "natural experiment" of Helen Keller, who was deaf and blind. She began to acquire the basic skills of communication as late as at the age of six plus. Before that age, she tells us in a less known book of hers, *The World I Live In* (p. 117), she had no word for, e.g. ice cream.

When I wanted anything I liked – ice cream, for instance, of which I was very fond – I had a delicious taste on my tongue (which, by the way, I never have now), and in my hand I felt the turning of the freezer. I made the sign, and my mother knew I wanted ice cream. I "thought" and desired in my fingers.

(Dahl 1965: 537)

Later, after having acquired the word *ice cream*, the peculiar sensation on her tongue and fingertips disappeared: "the blind impetus, which had before driven me hither and thither *at the dictates of my sensations*, vanished forever" (Dahl 1965: 542).<sup>1</sup>

Most normal adults delay categorization for fractions of seconds, so as to gather information required for making adequate judgments about reality. This is a requirement for satisfactory adaptation. In Helen Keller's case, categorization was delayed for over six years; and the story can demonstrate the advantages and disadvantages of rapid and delayed categorization. A category with a verbal label constitutes a relatively small load on one's cognitive system, and is easily manipulable; on the other hand, it entails the loss of important sensory information that might be crucial for the process of accurate adaptation. Delayed categorization, by contrast, may burden the human memory system with too much sensory load; this may be available for adaptive purposes and afford great flexibility, but may be time-and-energy consuming, and occupy too much mental processing space. Furthermore, delayed categorization may involve a period of uncertainty that may be quite unpleasant, or even intolerable for some individuals. Rapid categorization, by contrast, may involve the loss of vital information, and lead to maladaptive strategies in life. In Helen Keller's case, we see an opposition between a precategorical sensation on her tongue and fingertips, and a word. The former constitutes delayed, the latter relatively rapid categorization.

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1. I am indebted to Professor Pinchas Noy for the Helen Keller story.

The diffuse sensations are recoded into a compact, focussed concept, and tagged with a verbal label.

The mental economy involved in such a process has been described by George Miller as follows:

The input is given in a code that contains many chunks with few bits per chunk. The operator recodes the input into another code that contains fewer chunks with more bits per chunk. There are many ways to do this recoding, but probably the simplest is to group the input events, apply a new name to the group, and then remember the new name rather than the original input events.

(Miller 1970: 44)

This would explain why Helen Keller lost the sensations on her tongue and fingertips. She remembered the new name “ice cream” rather than the original input events. Delayed categorization makes possible to perceive some of the pre-categorical information before it is replaced by the name (cf. below, Chapter 14).

A more sophisticated case of recoding information into a more parsimonious code may be observed on the phonetic level, where speech is transmitted in an acoustic stream of information, then recoded into a stream of phonetic categories. “The difference in information rate between the two levels of speech code is staggering” say Liberman et al. (1972). “To transmit the signal in acoustic form and in high fidelity costs about 70.000 bits per second; for reasonable intelligibility we need about 40.000 bits per second. [...] We should suppose that a great deal of nervous tissue would have to be devoted to the storage of even relatively short stretches”. To prevent flooding of the system, recoding (phonetic categorization) is necessary. “By recoding into a phonetic representation, we reduce the cost to less than 40 bits per second, thus effecting a saving of 1,000 times”.

Both language and speech consist, then, of highly categorized entities. Words refer to concepts, not to unique experiences. The categories of speech are unitary events; the auditory information that transmits them is typically excluded from consciousness. A similar process one may observe in semantic categories. When we say “love”, “green”, “table” or “ecstasy” we are not referring to nonconceptual qualities or events, but to the *concepts* of “love”, “greenness”, “table”, or “ecstasy”. Thus, language is particularly ill-suited to convey unique emotional experiences, unique sensations, mystic insights and the like. As I said, speech too focuses on speech categories and typically excludes the rich pre-categorical sensory information. For the past forty years or so I have been exploring how poets attempt to overcome this limitation of language and speech. On the whole, they try to express the unspeakable by having recourse to rich pre-categorical information, sensory and semantic. The present book explores techniques by which the relationship of categories to pre-categorical information can be loosened both in the phonetic and

the semantic dimension. In the semantic dimension, this may be accomplished by having recourse to metaphor, ambiguity, or by activating the right hemisphere of the brain in processing the message, via the orientation or space perception mechanism (see below, Chapters 5 and 14).

## 1.2 “Speech mode”, “Nonspeech mode”, “Poetic mode”

As to the auditory dimension, Liberman and his colleagues distinguish between a speech mode and a nonspeech mode of aural perception, with separate pathways in the brain. In the latter, the perceived sound has a shape similar to that of the sound wave that carries it (music, sonar, natural noises). In the former there is no similarity between the perceived sound and that of the acoustic information. The precategorical sound information that transmits speech is immediately recoded into phonetic categories and excluded from awareness.

I claim that there is a third, “poetic mode of speech perception”, in which we listen to a stream of abstract phonetic categories. There is much experimental evidence of the existence of lingering auditory information. In Chapters 2 and 11 I will present some such evidence. At the same time, at a lower level and subliminally, we may attend to the rich precategorical information which may affect the perceived quality of poetic language in a variety of ways. Due to the subliminal perception of such precategorical information we perceive, e.g. [u] as “lower”, “larger” and “darker” than [i].

As to references on experimental evidence for the existence of separate neural pathways for the speech mode and the nonspeech mode, research has shown that speech stimuli presented to the right ear (hence *mainly* to the left cerebral hemisphere) are better identified than those presented to the left ear (hence, *mainly* to the right cerebral hemisphere), and the reverse is true for melodies and sonar signals (see Liberman et al. 1967:444; my italics; additional evidence can be found in Chapter 11). It is important for our purpose to emphasize “mainly”. Much crippling scepticism has sprung from an all-or-nothing conception of lateralization; and there are considerable differences, *on various linguistic levels*, between linguistic categories that cannot, and that can, be processed, less efficiently though, by the right hemisphere. On the grammatic level, for instance, function words can be understood only by the left hemisphere; content words can be understood in some circumstances by the right hemisphere too. Jakobson (1980) tells about a patient with a damaged left hemisphere who could understand the noun “inn”, but not the preposition “in”. A few years ago, in a lecture at a Porter Institute conference, Tel Aviv University, Eran Zeidel told about a patient who could read the noun “bee”, but not the auxiliary verb “be”. A similar story can be told about phonetic categories.



A significantly greater right-ear advantage was found for the encoded stops than for the unencoded steady-state vowels. The fact that the steady-state vowels are less strongly lateralized in the dominant (speech) hemisphere may be taken to mean that these sounds, being unencoded, can be, and presumably sometimes are, processed as if they were nonspeech.

(ibid, cf. Jakobson & Waugh 1979: 30–35, Jakobson 1980)

In Chapters 2 and 12 I point out two rare cases of Symbolist poems, in which isolated periodic speech sounds (vowels and liquids) can be construed as speech and nonspeech at the same time.

If right-ear (left hemisphere) advantage is characteristic of the speech mode, and left-ear (right hemisphere) advantage of the nonspeech mode, one might reasonably speculate that the poetic mode of speech perception is characterized by some way of overcoming this channel separation or specialization. Certain perceptual qualities that are characteristic of a certain acoustic signal when processed in the nonspeech mode (that is, mainly by the right hemisphere) are eliminated from consciousness when the same signal is processed in the speech mode (that is, mainly by the left hemisphere). In the poetic mode, some “cross talk” may occur between the two circuits: some nonspeech qualities of the signal seem to become accessible, however faintly, to consciousness. The poetic mode exploits these cross talks for poetic effects.

### 1.3 Thing destruction and thing-free qualities

The dichotomy of categories vs precategorical information may be related to two additional dichotomies, suggested by Anton Ehrenzweig (1965, *passim*) as part of his aesthetic conception: Gestalts vs Gestalt-free qualities, and things vs thing-free qualities. During the years, I wrote two papers on “Oceanic dedifferentiation” in relation to poetry. The earlier one (1988), published in *Journal of Pragmatics*, is included in this book as Chapter 4. A later one was written for my 2003 book *On the Shore of Nothingness*. The later paper begins with the following paragraph.

Ordinary consciousness organises percepts into objects that have stable shapes with clear-cut boundaries between them. It is intimately associated with voluntary control. Altered states of consciousness consist in some kind of withdrawal from the achievements of ordinary consciousness. This withdrawal may turn out to be a difficult achievement, because it involves the voluntary abandonment of voluntary control. Religion, meditation and mystic experience involve such altered states of consciousness, in this mounting order of difficulty. Hypnosis, dream and the hypnagogic state (drowsiness preceding sleep) too are altered states of consciousness. They involve regression, to some degree or other, to

some lowly-differentiated state of mind, the relinquishing of conscious control. These states of consciousness are not easily accessible to the arts, and least of all to poetry, the medium of which is conceptual language. In relation to music and the visual arts, Anton Ehrenzweig speaks of “thing-destruction” “suspension of boundaries”, “thing-free” and “Gestalt-free” qualities, and of a “secondary elaboration”, or “superimposition”, of some organizing pattern on the resulting diffuse qualities. These critical terms seem to have considerable descriptive contents to allow the critic to point out the source of those “unspeakable” effects. Ehrenzweig relates these notions to Freud’s notion of “Oceanic Dedifferentiation” (or “Undifferentiation”), and to Bergson’s “Metaphysical Intuition”.

(Tsur 2003: 231)

In Chapter 4 I explore instances of metaphors of the structure IMMERSION in an ABSTRACTION suggesting such “Oceanic Dedifferentiation”. Ehrenzweig (1965) explores the various relationships between well-defined shapes (“prägnant Gestalts”) and Gestalt-free, inarticulate “mannerisms” in painting and music. Taking a close look at a good wallpaper, he says, we may see a series of similar, well-designed shapes, one beside the other. Looking at it from a distance, we will find the wall paper Gestalt-free, ambiguous; we may project on it any shape. A good wall paper passes unnoticed; nevertheless, it makes all the difference whether it is there or not. Similarly, in a painting, or even an etching, while we direct our attention to the shapes of the picture, we subliminally perceive such Gestalt-free elements as *chiaroscuro* effects, shades and lights, irregular brush-strokes and scribbings. It is these elements that give the picture its peculiar depth, its plastic quality. It is not impossible to imitate the shapes drawn by a great master – imitating them will only prove that what gives them their peculiar character is precisely the barely noticed irregular strokes which the disciples find so difficult or even impossible to imitate. Gestalt-free elements are frequently created by superimposition of well-defined shapes, which sometimes “blend” so successfully that it takes a great conscious effort to tell them apart and contemplate them in isolation. In this way, says Ehrenzweig, the artist dissects “the shapes around him ... into arbitrary fragments and rejoins them into arbitrary form phantasies” (143). It is this process which Ehrenzweig calls *thing-destruction*, that results in *thing-free qualities*.

In music, the tones and melodies are the things and Gestalts. The quality of the tone is created by subliminally perceived irregular sounds like *vibratos*, and *glissandos* “sandwiched” between two sounds, or repressed overtones. Both in painting and music, an increase of “depth”, “thickness”, “plastic quality”, reinforcement of Gestalts may be noticed with the amplification of the Gestalt-free elements, and of their irregularity – up to the point of greatest “saturation”; this passed, the Gestalt-free elements begin to draw conscious attention and give way to completely different qualities. According to Ehrenzweig, what distinguishes great masters of the violin is precisely this large unnoticeable amount of irregular

*vibratos* and *glissandos*; with salon musicians and some second-rate singers the *vibratos* and *glissandos* become consciously audible – that is why some people feel them to be “cheap”, sentimental. In true polyphony, the superimposition of various melodies creates sustained passages of inarticulate (Gestalt-free) structures; polyphony as thing-free hearing is comparable with the painter’s thing-free vision. Another quality of the tone, its colour, is determined by its **overtones**:

But instead of this chord which should often sound quite agreeable, we usually hear a single tone, the fundamental. The others are “repressed” and replaced by the experience of tone colour which is projected onto the audible fundamental [...]. Without tone colour fusion we would have to analyze the complex and often confusingly similar composition of overtone chords, in order to infer the substance of the sounding things and so identify them. Hence a conscious overtone perception, if it were possible, would be biologically less serviceable.

(Ehrenzweig 1965: 154)

Harmonious fusion of sounds consists in the mingling of overtones of various tones, thus creating a *thing-free quality*, that is, a “mixture” of overtones, which no tone corresponds to. Ehrenzweig quotes Arnold Schönberg, who claims in his book on harmony that many composers are in a continuous chase after the still unheard overtone. Several aspects of overtone fusion in music and speech will be discussed in Chapter 2; in poetry reading, in Chapter 7.

As I have suggested, in verbal arts the most obvious “things” are words; the most obvious way to evoke a “thing-free vision” is to divert attention away from denotations to connotations, diffuse semantic features and minute, divergent phonetic details. When the neoclassic poet offers the reader “what oft was thought but ne’er so well express’d” (Pope, *Essay on Criticism*), the share of thing-free qualities is quite negligible. When, on the other hand, romantic and impressionist poets offer us elusive atmospheres, transient moods, the intuition of some transcendental truth, thing-free qualities may play an overwhelming part in the total effect of the poem.

Ehrenzweig’s general aesthetic framework has the merit of offering terms that are applicable across sensory modes, such as *Gestalt*, *Gestalt-free*, *things*, *thing-free*, *thing-destruction*. In fact, human art is typically created in the visual and the auditory modes, in which these distinctions are fairly obvious. On the other hand, these terms can be applied to the specific arts only *via* terms that have well-articulated descriptive contents in the criticisms of their respective arts. We have found, indeed, that Ehrenzweig uses such terms as *chiaroscuro effects*, *vibrato*, *glissando*, *true polyphony*. In the next section I will offer one possible example of such a mediating system: Christine Brooke-Rose’s (1958: 209) discussion of noun-metaphors, according to which certain qualities are *abstracted* from *concrete nouns*.

In my work on metaphor I conceive of words and of objects as of bundles of features. Likewise, in my work on the sound patterns of poetry I conceive of speech sounds as of bundles of features. In my work both on metaphor and the sound patterns of poetry I explore how the perception of such features may be rendered more compact or more diffuse by poetic manipulation. In Chapter 3 (on the Tip-of-the-tongue phenomenon) we will have an opportunity to observe at considerable length the underlying cognitive mechanism, where the various semantic and phonetic features fail to integrate into one compact entity. This preoccupation has two obvious merits: the Tip-of-the-tongue phenomenon (TOT phenomenon) has, most conspicuously, considerable psychological reality; and it clearly demonstrates a relationship between the diffuse structure and the perception of an intensive, lowly-differentiated quality. Such a quality, as we shall see, still has a definite character determined by the particular features involved.

#### 1.4 “The Roses of her Cheeks”

Let us consider, then, a fairly trivial metaphor and Christine Brooke-Rose’s miniature theory of metaphor focussed on it.

When we use a noun metaphorically, we make abstractions of certain attributes which it possesses, leaving out others which would not fit; for instance, in “the roses of her cheeks”, we think only of pinkness and softness, not of thorns, leaves, yellowness or dark red. The metaphoric term, though a noun, becomes the bearer of one or more attributes. (1958: 209)

Here I wish to make a few points. First, the concrete noun *roses* is conceived of as of a bundle of attributes or *features*. Secondly, the majority of these attributes are denoted by abstract nouns; the reason for this can be illuminated by the etymologies of the words “concrete” and “abstract”. The former is derived from a word meaning “grown together”, the latter from a word meaning “to take away”. Concrete nouns denote objects in which several attributes are “grown together”, abstract nouns denote attributes in isolation, taken away from the concrete object, e.g. *fragrance*, *pinkness*, *softness*, *yellowness*, *dark red*. In this sense, “features” and “attributes” are precategoryal elements. Thirdly, in every speech activity Jespersen (1960: 19) distinguished **expression**, **suppression** and **impression**. *Expression* is what the speaker actually said; *suppression* is what might be but has not been said; *impression* is the perceived quality of the discourse, resulting from the interaction of *expression* and *suppression*. In Christine Brooke-Rose’s example, the words *The roses of her cheeks* constitute the expression; the abstractions *fragrance*, *pinkness*, *softness*, which have not been explicitly mentioned, constitute the suppression; the shortest way to point at the resulting impression is to point to the perceived difference of effects between

*The roses of her cheeks* and *The fragrance, pinkness and softness of her cheeks*. The impression here is also affected by the fact that the list of attributes is open-ended, and one might add further items to it, such as *beauty*, *freshness*, or may further specify e.g. *softness*, by the particular silky or velvety texture of the roses. The decomposition of a concrete noun into an indefinite number of attributes that are compatible with the headword of the expression may be experienced in some cases as *insight*. Eventually, the unique impression of the metaphoric expression seems to be due to the very number of these attributes caught – so to speak – in a glimpse, so that any one of them is prevented, in Bergson's phrase, from "usurping" the others' place in our attention (quoted by Ehrenzweig 1965: 34–35).

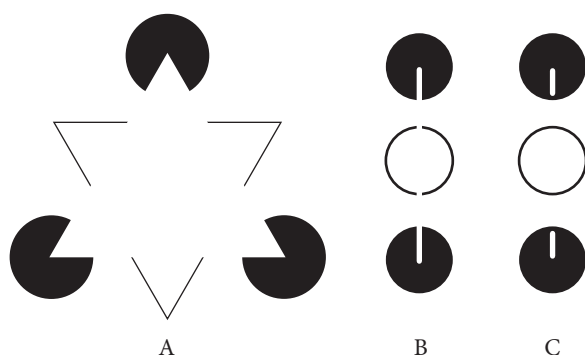
The relationship between the concept denoted by *roses* and its features is considerably loosened. The various features become semantically active in their own right, whereas some others, no less essential to the concept "roses", are left out as irrelevant. In light of our foregoing discussion, we could put this in a slightly different way. When we use the word *roses*, we refer to a concept. Having a concept enables us to generalize across situations and instances. The more features of the unique instance or situation we leave out, the easier it is to generalize across situations. When we name a concept, instead of bringing out the complexity of the experience, we reduce experience to a single item which falls under acknowledged categories. In the above metaphorical use, we decompose, so to speak, the single item into its component features. There is no escape from denoting concepts in verbal communication; but an awareness of the concept and, at the same time, of its features, brings us nearer to the unique, individual experience, with all the disquieting elements implied. It has something of the unpredictability, of the feeling of trembling on the brink of chaos.

Here an additional distinction must be made. As will be pointed out time and again in this book, sharp outlines increase the interaction of such thing-free qualities *within* the boundaries; the dimmer the outlines, the stronger their interaction *across* the boundaries (see, e.g. Chapter 2). Objects with characteristic visual shapes (as roses or cheeks) tend to inhibit the interaction of thing-free qualities across their boundaries; thus, those thing-free qualities are felt to be active, but kept in control. The next section will illuminate the mechanism underlying such inhibition. As will be seen in Chapters 2, 4–6, the full effect of thing-free qualities can be experienced where visual shapes are sufficiently weak. In Chapters 2 and 7 we will find a similar principle with reference to precategorical auditory information too.

## 1.5 Perceptual boundaries and fusion

The phenomenon known as "illusory boundaries" may illuminate two issues relevant to our inquiry. First, as recent brain research suggests, even in the processing

of highly “intellectual” geometric shapes, in certain conditions information processing is based on incoming data from the environment to form a perception, and no higher brain image is necessarily involved. Second, it may serve as additional evidence for the phenomenon just mentioned, and discussed at some length in Chapter 2. There I invoke the Gestalt rule that some perceptual processes are inhibited across the boundaries of strong Gestalts; they increase to the degree that the Gestalt boundaries are weakened or impaired. I also quote Ehrenzweig, who adduces evidence for this regarding colour induction in visual perception and overtone fusion in polyphonic music. Then I suggest that this principle may apply to overtone interaction in speech perception as well, and thus account for some conspicuous but elusive phenomena in poetry, for which we don’t even have a metalanguage to describe it. For instance, some repetitive sound patterns are perceived as compact, and some as relatively diffuse (compare, for instance, Pope’s and Milton’s alliterations). In the strong Gestalts of Pope’s poetry the interacting overtones of speech sounds are contained within the verse line boundaries, and reinforce each other; in Milton’s weak Gestalts overtones may be fused across verse boundaries and diffused over relatively large areas, generating a dense thing-free texture.



**Figure 1.** Closed Gestalt boundaries inhibit the generation of illusory objects across them (C); their disruption may facilitate it (A and B)

Figures 1A–1B show instances of illusory boundaries (or contours). Michael Gazzaniga defines illusory contours as “an illusion where contours are perceived, even though there is no line, luminance or color change” (Kindle eBook). In Figure 1A we see the famous “Kanizsa triangle”: a triangle with white contour and white fill is superimposed upon a triangle with black contour and white fill. At the edges of the white triangle there are three small black disks; these edges conceal parts of the disks as well. In an important sense both triangles are equally

real, we see them out there on the paper, irrespective of how they were generated, the superimposed triangle concealing parts of the other triangle from vision. In another sense, however, they substantially differ. The black triangle was generated by drawing its lines in black ink (or some equivalent); the outlines of the white triangle have not been traced by drawing in any way: it is a “virtual image”, so to speak. Note that we clearly see the white object with its sharp outlines even where the background too is white. The small black disks are disrupted by small wedge-shaped white patches; likewise, the continuity of the outlines of the black triangle too is disrupted at three points. Such disruptions of contours seem to be an essential (though not sufficient) condition for the “illusory boundaries” to arise (it also requires carefully-controlled directions). Such a conclusion may be suggested by Figures 1B and 1C. In both figures we see two small black disks enclosing a small white disk with a black contour. In the black disks there is a small white vertical strip. In Figure 1B, the white strip is continuously drawn out from the upper black disk through the middle white disk, to the lower black disk, generating illusory boundaries of an elongate object; in Figure C, it is not. Again, the difference seems to be that in Figure B, in all three disks the contours are disrupted in carefully-controlled directions, whereas in Figure C they are intact.

Recent brain research suggests that this is not an *inference* by analogy with what we know is the case with physical boundaries, but rather an *immediate response* of the brain’s visual cells. “Orientation selective cells are capable of responding to virtual lines. [...] There are many variants of this Kanizsa figure and their characteristic is that they are all open to only one plausible interpretation. The interpretation is probably dictated by the physiology of orientation selective cells in the cortex” (Zeki 2004: 181).

It has been supposed that the interpretation that the brain gives to the configuration shown in Figure 1A is imposed top-down (Gregory 1972). If so, then higher areas of the brain should become engaged when subjects view such figures. But imaging experiments show that, when human subjects view and interpret such incomplete figures as triangles, activity in the brain does not involve the frontal lobes. (Zeki 2004: 182)

The same holds true, says Zeki, of colour perception and ambiguous figures.

To account for colour constancy, for example, both Helmholtz and Hering invoked higher (cerebral) factors such as judgment, learning, and memory. Similar higher factors have been invoked to account for ambiguous figures such as the Rubin vase (see Chapter 10, Figure 1a). But the mandatory involvement of higher centres in colour vision or in the perception of illusory figures is doubtful, since all imaging studies of colour vision and illusory figures are united in showing that there is no involvement of frontal or prefrontal cortex.

(Zeki 2004: 175)



For our purpose, the bottom line is this: not only physical boundaries may block the interaction of physical forces across them, but perceptual boundaries too may disrupt the interaction of perceptual phenomena across them, whereas the weakening or disruption of perceptual boundaries may boost such interaction. For our purpose, however, there is a substantial difference between “illusory boundaries” or ambiguous figures on the one hand, and “colour induction” in visual perception or “overtone fusion” in music on the other: whereas colour induction and overtone fusion induce interaction of thing-free and Gestalt-free qualities, illusory boundaries generate stable Gestalts. The phenomenon we are dealing with, namely overtone fusion in speech perception, is more like colour induction and overtone fusion in music than like illusory boundaries.

### 1.6 “Precategorical” – predecessors and successors

I have taken the notion of “precategorical auditory information” from Al Liberman and his colleagues (see, e.g. Liberman et al. 1972) at the Haskins Laboratories (they use “categorical” and “precategorical”; I omitted the *c*, to distinguish my terms from Kant’s). In speech research this notion is well-established, though usually it is difficult directly to observe it by introspection. It can be accessed, mainly, in laboratory conditions. In Chapter 11 I present an instance of such artificial conditions, with sound files available online. I found that this is part of a much wider issue: the construction of “ordinary consciousness”, and the notion “precategorical information” can be applied to semantic categories as well. The present book offers a wide range of aspects of language and literature to which the term can fruitfully be applied. Following my work, the term is increasingly adopted in the cognitive study of literature. I will briefly present here the work of three researchers.

The researcher whose conception of precategorical information is nearest to mine is Margaret Freeman. In her article “The Aesthetics of Human Experience: Minding, Metaphor, and Icon in Poetic Expression” she bases her approach to literature, she says, on Vico’s, Susanne K. Langer’s (1953, 1967), and Maurice Merleau-Ponty’s (1962 [1945], 1968) theories (Freeman 2011:717), but from my work, too, she adopts the notion of “precategorical”. “In my analysis of Matthew Arnold’s poem ‘Dover Beach,’ I apply Vico’s arguments in his new science that relate to aesthetics by revising the way we metaphorically construct “mind” as object and by understanding the role of the imagination in creating meaning. This goes to show how poets create an aesthetic language to break through the conventional uses of discursive language, which conceal our underlying, precategorical responses to the world we experience” (Freeman 2011:720). In Chapter 14 I will also discuss the differences between our approaches.



As I said, my work is essentially speculative; frequently I adopt experimental results of others, and apply them in my work as hypotheses. In an attempt to obtain more direct empirical support for my work, I googled the web for “precategorical”. Some items that turned up refer to the work of the speech researchers from whom I took the notion of “precategorical information”; but most of them refer to my own work. It is David Miall’s neuropsychological evidence, and Sarah Jackson’s think-aloud experiment that come nearest to an empirical support of my work.

David S. Miall has reviewed brain-scanning (evoked response potentials, or ERP) and imaging (fMRI) studies that focus on response to various aspects of language during the first 500 milliseconds of response.

The neuropsychological evidence points to a temporal gap between the immediate onset of feeling and its cognitive consequents that unfold several hundred milliseconds later; thus we can also regard the gap as occurring between the precategorical and cognitive phases of response, to adopt Tsur’s term (1992, p. viii). The mirror neuron system, it will be recalled, invokes our capacities at the precategorical level. (Miall 2011a: 295)

Miall uses the term in additional places, among others, in an article that has just appeared in *Poetics Today*:

The mirror neuron system invokes capacities at the precategorical, prereflective level, that is, responses that are temporally prior to, or at the borders of consciousness. This capacity we have to enact the entities, objects, and events we perceive, re-engages the body, through, in Shusterman’s words, the “primordial perception or experience of the world that lies below the level of reflective or thematized consciousness and beneath all language and concepts”; the level that Merleau-Ponty terms “primary subjectivity” (Shusterman 2008: 57).

(Miall 2011b: 701–702)

In his earlier work, Miall utilized the notion with an eye on textual analysis. “Following Tsur, Miall and Kuiken see the literary disturbance and delaying of text processing as making ‘precategorical’ and ‘lowly categorized’ information – including what we call ‘gut’ feelings – available to readers” (Alan Richardson 2006) *Literary Theory and Criticism: An Oxford Guide*. Oxford University Press (p. 548).

Likewise, in a pilot think-aloud experiment presented at PALA 2009, Sarah Jackson extensively applied my theoretical battery (including “sensory precategorical information”) to a short passage from T.S. Eliot’s “Ash Wednesday” and four readings thereof. She found that in some places reader’s reactions were triggered by textual features that worked against each other, producing cognitive overload and blurring perceptual organisation. She concluded that in some readers this led to a regression of the perceiving consciousness and a perception of what could be termed an altered state of consciousness.

## 1.7 Guide through this book

Phenomenologically, the intense co-presence of phonetic and semantic precategorical information can be observed in the Tip-of-the-Tongue phenomenon, when one has on the tip of one's tongue a word that will not come into mind. In such states, people report the experiencing of some intense but lowly-differentiated mass of something, an "intense absence" which can be satisfied only with that one particular word. Such a quality is not unlike the dense atmosphere experienced in much romantic and symbolist poetry. In Chapter 3, I discuss Roger Brown and David McNeill's experiment, which offers a model for the underlying cognitive mechanism, and demonstrates that all the precategorical semantic and phonetic information is, indeed, present in the TOT state, but will not integrate into a compact word (Brown 1970). The TOT state is widely recognized as associated with Freudian psychopathology of everyday life. Roger Brown and David McNeill demonstrated that this is a cognitive phenomenon that may well occur without the unconscious Freudian conflicts. I came to the conclusion that a more adequate description might be as follows: There is a mechanism of retrieving words from long-term memory, which usually works smoothly, unnoticed. Sometimes this smooth working is disrupted so that we have a word on the tip of our tongue and become aware of the process. Such disruption may be exploited by psychodynamic processes for psychopathological purposes, or by poetic language for aesthetic purposes. This would hold true of Freudian slips of the tongue as well, and of misquoting a memorized passage (see, e.g. Tsur 1992b: 149–152; 2003: 2004–206; 2004: 65–67).

Intuitively, some alliterations "click", some "clink"; that is, in certain circumstances some rich precategorical auditory information is perceived reverberating in the background while we read poetry; and in some circumstances the sound patterns are perceived as "opaque". Chapter 2 explores those circumstances with reference to Gestalt theory, speech research and research on perception and personality. This phenomenon can be conveyed only through an "ostensive definition", that is, by pointing to an example. Such "ostensive definition" assumes an intuitive understanding, that is to say, that participants have sufficiently grasped the phenomenon to recognize the type of information being given. Figure 1 above may be regarded as a conspicuous instance of ostensive definition of illusory boundaries; or even of the wider principle of perceptual interaction across perceptual boundaries: strong perceptual boundaries may inhibit perceptual interaction across them; their weakening or disruption may boost it. Pointing at alliterations of Pope and Milton as instances of opaque and reverberating sound patterns, respectively, may be a much less clear-cut case of the same. However, a discussion of Pope's strong and Milton's weak versification boundaries (which

most readers of poetry have sufficiently grasped) may guide participants to attend to the phenomenon in question.

Chapter 5 explores two linguistic devices that typically are felt to diffuse semantic information and generate, in certain circumstances, dense thing-free qualities in poetry: a combination of deixis with abstract nouns; and constructions of the ABSTRACT of the CONCRETE form. They are at their most effective when they occur together. It has been found that these devices and the underlying mental processes are most relevant to seventeenth-century Jesuit meditation, for instance (Tsur 2003: 95; Tsur & Benari 2002), and may account for some crucial issues in romantic and symbolist poetry, and in Whitman's "meditative catalogues" (Tsur 2008: 456–468).

Chapter 6 points out that the preceding chapter offers convenient tools for distinguishing between symbol and allegory. It demonstrates this by close readings of poems by Keats, Spenser, and Baudelaire.

Chapter 7 examines Hopkins' "The Windhover" and its notorious linguistic devices (such as "dapple-dawn-drawn falcon"), explores their relation to pre-categorial information, and shows in great detail how they may contribute to an ecstatic quality in a poem. In the second part of this chapter I submit a reading of this poem to instrumental analysis, exploring through electronic manipulations, how the weakening of intonation contours may boost the interaction of precategorial information.

In Chapters 2 through 7 I make a crucial distinction between categorial and precategorial information, or between Gestalts and Gestalt-free qualities, involving, I would say, a qualitative leap. In Chapters 8 and 9 I deal with what could be described as differences in degree. I explore the well-known stylistic device "defamiliarization", which treats highly-categorized phenomena not in terms of precategorial information, but of lower categories. This device is frequently exploited in fiction for ironic, witty, satirical, or even absurd effects. But in Yeats's sonnet "Leda and the Swan", for instance, it suggests an overwhelming, staggering emotional experience. Chapter 9 argues that such emotional terms as "sad" may refer to the mental processes of a flesh-and-blood person, or to some aesthetic qualities of a piece of music or poetry, suggesting some structural resemblance between the music and an emotion, such as low energy level, slow movement, and a withdrawn, unassertive attitude suggested by the minor key. It examines the convergent/divergent dichotomic spectrum, where the nearer a poetic structure to the divergent extreme, the more it is prone to suggest emotional qualities or subtle irony. This chapter also expounds another nonconceptual phenomenon, called by Gestalt theorists "perceptual forces". Such perceptual forces are generated when there is an intruding event between the middle and the boundaries of some perceptual unit, upsetting its balance. The effects of such intrusion are explored on

a macro scale with reference to verse line boundaries and, on a micro scale, with those of phonemes.

Chapter 10 explores another central Gestalt notion: figure-ground relationship in visual designs, music and poetry. The Gestalt notion “figure-ground phenomenon” refers to the characteristic organisation of perception into a figure that ‘stands out’ against an undifferentiated background. What is figural at any one moment depends on patterns of sensory stimulation and on the momentary interests of the perceiver. Figure-ground relationship is an important element of the way we organise reality in our awareness, including works of art. Poets may rely on our habitual figure-ground organisations in extra-linguistic reality to exploit our flexibility in shifting attention from one aspect to another so as to achieve certain poetic effects by inducing us to reverse the habitual figure-ground relationships. This flexibility has precedent in music and the visual arts. Works by Escher, Bach, Mozart, Beethoven, Dickinson, Shakespeare, Sidney, Shelley, Beckett and Alterman are examined.

Chapter 11 explores additional aspects of the poetic mode of speech perception, the effect of precategorical auditory information on size-sound symbolism. I compare three approaches to cases when, e.g. a voice is said to be “thick”: the mediated-association approach, the assumption that the voice shares some inter-sensory quality with the visual or tactile apprehension of thickness, and an evolutionary approach. There seems to be an intercultural intuition that high front vowels like [i] are perceived as smaller than low back vowels like [u]. By examining a total of 136 languages, Ultan (1978) demonstrated this on a large scale in a wide variety of the world’s languages. Diffloth (1994) provides an alleged counterexample to this generalization from a Vietnamese dialect. In a thought experiment I point out a hidden conflict in his argument, suggesting that it becomes a counterexample only if you change, midway, the rules of the game. Chapter 12 presents an integrated and condensed account of my arguments concerning Literary Synaesthesia in three of my earlier books (Tsur 1987, Chapter 12; 1992b, Chapter 4; 1992a, Chapters 9 & 19 [=2008, Chapters 10 & 20]), throwing it into the perspective of more recent neuropsychological research by Ramachandran and Hubbard (2001), Newberg et al. (2001), and Cytowic (2003); a closer look at this book reveals that its informant didn’t “taste shapes” as the title “The Man who Tastes Shapes” suggests, but sensed tastes in the haptic mode; such an understanding would render this case too congruous with Ullmann’s (1957) “Panchronistic Tendencies in Synaesthesia”. This chapter distinguishes between synaesthesia as a neuropsychological and a literary phenomenon and, within the latter, between a variety of possible poetic effects. Among other things, it is a powerful tool to suggest some lowly-differentiated precategorical quality. Toward its end, the chapter brings together the gist of my discussions of two French sonnets notorious for their extreme

synaesthetic imagery, Baudelaire's "Correspondances" and Rimbaud's "Voyelles" (discussed at great length in Tsur 1992a, Chapter 19 [=2008, Chapter 20], and Tsur 1992b, Chapter 4, respectively). They explore in the verbal mode extreme instances of what in the visual mode, Ehrenzweig describes as follows: the artist dissects "the shapes around him [...] into arbitrary fragments and rejoins them into arbitrary form phantasies" (1965: 143), upon which the poets superimpose a pattern of "emotive crescendo", by "retro-relating" the last line that suggests some ecstatic transport.

In Chapter 13 I explore the issue of precategorical information in a wider cultural perspective: the place of nonconceptual information in university education. I argue that our Western academic education gives conspicuous priority to conceptual instruction and neglects, to a considerable extent, sensuous information, intuitions and tacit knowledge. However, even in the exact sciences, let alone the humanities, our explicit knowledge is insufficient for applying definitions or equations; they are governed by intuitive and tacit knowledge. In literary studies, the tutor's task is to make students aware of certain elusive aspects of the text, and that in some instances certain kinds of response *are possible* (and not that one *must* respond in a certain way). In perspective of the present book, a crucial question arises: how do you communicate responses to precategorical information for which there is no name in language; and when you give it a name it ceases to be precategorical information, as in Helen Keller's case?

In Chapter 14 I discuss theoretical and practical issues that arose in course of the present book. It is called "Points and Counterpoints" because each section confronts at least two possible points of view on one issue.



## The poetic mode of speech perception revisited

### What our ear tells our mind

#### 2.1 Stating the problem

This chapter is an attempt to integrate (with some innovations) what I have said during the years about the rich precategory auditory information reverberating in the background while we read poetry. My work on this topic draws upon two different sources. One is Anton Ehrenzweig's seminal work on Gestalt-free and thing-free qualities in the visual arts and music, and the interaction of such qualities within and across the boundaries of Gestalts. When boundaries are clear-cut, colour interaction is increased *within* them and inhibited *across* them; the more blurred the boundaries, the stronger the interaction *across* them. Ehrenzweig discusses this via colour induction in the visual domain, and overtone fusion in polyphonic music. Overtone fusion in music may generate hitherto unheard tone colours, and enhance the Gestalt-free *texture*. In speech, vowels are uniquely determined by concentrations of overtones called "formants". I claim that in certain circumstances the musical effects of poetry are crucially affected by similar overtone fusion. My other source is, obviously, speech research, which explores the transmission of speech through a stream of precategory sound information, subsequently recoded into a sequence of speech categories.

Traditional literary scholarship has explored the versification devices which render poetry more musical than prose: metre, rhyme, alliteration, etc. In this chapter I propose to go two steps beyond that. What I propose to explore is quite elusive, and traditional scholarship doesn't even have a vocabulary to refer to it. And even when I propose one, it will be impossible to define the conditions in which the terms apply. But, I hope, they will enable us to discuss elusive intuitions in a meaningful way. Thus, the present chapter is about precategory information and, at the same time, about the exigencies of critical communication.

As a first approximation, let us make the following distinction: Sometimes we experience the sound patterns of poetry as relatively opaque speech categories;

and sometimes as abounding in rich resonance, in lingering precategorical auditory information reverberating in the back of our mind – in other words, alliterations may “click” or “clink”. The reverberating background texture sometimes acts in a way that is similar to the Gestalt-free shadings, scribbles and slight variations of color in the background of visual designs. They foreground the speech categories and sound patterns, round them out, as it were, making them more plastic and plump. Let me clarify what I mean by “resonance”, “lingering auditory information” and “reverberating overtones”, through an example adapted from Leonard Bernstein: “Depress middle C very carefully so as not to let it sound; then sharply strike and quickly release the C an octave below. As soon as the lower C is released what will you hear? The *upper* C! It seems like magic, because you have really not “struck” this higher C, but the lower one” (Bernstein 2004: 198), exciting the upper C-string to vibrate sympathetically as the first overtone of the C an octave below. Such activation of overtones is called resonance.

As a kind of “ostensive definition” of what I mean with reference to verbal structures, let me give three brief examples. First, a most elementary, nonpoetic example. Consider the name of the German philosopher *Kant*, and the word *can’t* (contraction of *cannot*), in British English. In the former, the [n] is a full consonant; in the latter it is attenuated into the [+NASAL] feature of the nasal vowel [ã]. In the former it is perceived as relatively opaque; in the latter as more resonant than either a nasal consonant, or an oral vowel (e.g. [a]). Second, consider the following stanza from FitzGerald’s “The Rubáiyát” of Omar Khayyám:

Some for the Glories of this World; and some  
Sigh for the Prophet’s Paradise to come;  
Ah, take the Cash and let the Credit go,  
Nor heed the rumble of a distant Drum!

Consider the three rhyme words, *some–come–Drum*. Some readers report that they are aware of a rich body of reverberating auditory information in *Drum*, but are not aware of a similar richness in the preceding rhyme-fellows. To be sure, traditional criticism has an excellent explanation for this, as far as it goes. There is an exceptionally rich alliteration pattern in *rumble–distant–Drum*. The phrase refers to reverberating sound; the consonants [r] and [m], in turn, are perceived as *somehow* imitating sounds in nature. The present chapter purports to go two steps further, and invoke the rich precategorical auditory information on the one hand, and the fusion of such auditory information on the other. The point is that in certain circumstances such resonance is enhanced, and in some inhibited. In this stanza of the “Rubáiyát” there are additional alliterations, though less resonating: *Prophet’s Paradise* and *Cash–Credit*. Intuitively, they are perceived as less reverberating, more “opaque”, and having a “leaner body”.



Third, let us consider another classical example, Tennyson's notorious verse line "And murmuring of innumerable bees". It contains the sound cluster *mər* three times: twice in *murmuring*, and once in *innumerable*. Now, consider John Crowe Ransom's transcription of this line: "And murdering of innumerable beeves" – the reverberating background texture disappears. Ransom's transcription contains the sound cluster *mər* only twice; the rich precategorical information associated with it still could reverberate in acoustic memory (just as in *can't*), but it doesn't. Obviously, the onomatopoeia disappeared too. I will return to these examples. At the present stage of my argument I only want to point out one more thing. The [b] of *innumerable* and *bees* (or *beeves*) is part of another alliteration pattern, but not of the onomatopoeia. But even the [b] seems to have a fuller, richer, more resonant body in Tennyson's line than in Ransom's rewriting. In course of this paper we shall encounter a wide range of conditions that may enhance or inhibit the reverberating sound information.

Such "ostensive definition" assumes an intuitive understanding, that is to say, that participants have sufficiently grasped the phenomenon to recognize the type of information being given. Alternatively, the vocabulary and theoretical framework to be expounded here may be useful in directing attention to certain elusive aspects of the sound dimension of a poem. Paraphrasing Morris Weitz (1962: 59), it can be used as a crucial recommendation what to look for and how to look at it in a given sound pattern.

The catch is that if someone cannot hear what I attribute to those examples, I cannot argue with him, nor bring him any proofs. Some people may raise an eyebrow at such an ostensive definition of my elusive topic. According to Frank Sibley (1962: 77), however, that is precisely how aesthetic concepts are and should be handled. "If we are not following rules and there are no conditions to appeal to" Sibley says, "how are we to know when they are applicable? One very natural way to counter this question is to point out that some other sorts of concepts also are not condition-governed. We do not apply simple color-words by following rules or in accordance with principles. We see that the book is red by looking, just as we tell that the tea is sweet by tasting it. So too, it might be said, we just see (or fail to see) that things are delicate, balanced, and the like"; or, "reverberating" at that. Or, as Manfred Bierwisch (1970: 108) says, poetics must accept effects as given.

Another vantage point to approach this phenomenon is from the Jakobsonian model of language functions. From the reader's point of view, there is a hierarchy of *arbitrary* signs: graphemes → phonemes → meaning → extralinguistic referent (each later item being the signified of the preceding one). Man, as a sign-using animal, is programmed to reach the extralinguistic referent as fast as possible. According to Jakobson, what differentiates the referential function is focusing on the extralinguistic context; the poetic function focuses on the message. Figurative