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CHAPTER FOUR

THE SPELL OF SPEECH SOUNDS

que tels sons signifient ceci
Stéphane Mallarmé
Fragments

1. SOUND SYMBOLISM

The autonomization of minimal formal units, a characteristic procedure of the arts and sciences around World War I, was saliently manifested in the growing inquiry into the sound shape of language, especially into its sense-discriminative constituents. The question of double articulation, revived in modern Russian and then in Western linguistics, may be traced back at least to the medieval doctrine *de modis significandi* and its clear-cut idea of a discriminated and interconnected *articulatio prima et secunda*. This idea seems to have emerged under Greek incentives and means that one of the two articulations turns the sound matter (*vocis articulatio*) into words, while the other employs words to generate sentences (cf. RJ 1975: 292). The doctrine in question clearly implied that *vocis articulatio* obtains its signification *ex humana institutione* or, in Plato's terminology, *thésis* (by convention) and that the task of the speech sounds, which have no autonomous meaning themselves, is to differentiate word meanings.

The pervasive trait of linguistic science from the trailblazing efforts of the 1870s through the last hundred years, and during the interwar period in particular, has been the increasingly precise and systematic inquiry into the patent differentiating role of speech sounds as their paramount task. On the other hand, linguists began to turn their attention toward the immediate and autonomous significance of the constituents of the verbal sound shape in the life of language. This significance was supposed to be prompted directly by their nature, *physiè*, according to Plato's dialogue *Krattyllos* dramatizing the contest between the two permanent linguistic forces - convention and nature.

One cannot but agree with Coseriu (1969) when he acclaims Georg von der Gabelentz (1840-1893) as a "precursor of present-day linguistics" and especially as a promoter of "fruitful ideas on sound symbolism". Let us mention here that the widespread use in linguistics, poet-

ics, and psychology of the term 'symbolism' for the figurative relation - *physi* - is at variance with the semiotic terminology introduced by Peirce, who called those signs built *physi* 'icons', in contradistinction to those based *thési* which he labeled 'symbols'. However, the term 'sound symbolism', designating an inmost, natural similarity association between sound and meaning (*signans* and *signatum*), is so deeply entrenched in the protracted scholarly debates on this problem that our survey of this discussion will keep to the locution 'sound symbolism'.

In the comprehensive critical scrutiny of linguistic "tasks, methods, and achievements" which concluded Gabelentz's research (1891), he repeatedly raised the question of the proper expressive values inherent in the sounds of language. He detected such values in the creative process of children's linguistic growth and cited, for instance, the case of a little German boy who used the root *m-m* for anything round. This child named the bright moon and a white plate *mem*, a large round pan *mom* or *mum*, and the little white stars *min-min-min-min-min*, using a symbolic repetition. In his lexicon, a regular chair was *lakeil*, a little doll's chair *likill*, and grandpa's armchair *lukal*. His father when wrapped up in a heavy fur coat changed from *papa* to *pupu* (p.65).

Gabelentz's theory of creative *Lausymbolik* (1891), first supported by the omniscient Hugo Schuchardt (1842-1927), staunchly asserts in the paragraphs entitled "The sound-symbolic feeling" (pp.217-223) that sound and meaning prove to be - not *thési* but *physi* - inalienably interconnected for the naïve members of any extant speech community. In defiance of the scholastic slogan claiming the arbitrariness of verbal signs, a native German is prone to believe at heart that Frenchmen are silly when they name "ein Pferd Schewall" (p.217). As learned in etymology as Germans may be, in their perception words like *Blitz* 'lightning' and *Donner* 'thunder' or *spitz* 'pointed' and *rund* 'round' nevertheless merge with their imagery in such a natural way that in none of these pairs would an exchange of meanings be conceivable. *Blitz* evokes a sudden flash, whereas the French *foudre* according to Gabelentz depicts a crushing blow. He quotes similar emotional reactions to the sound shape of *Blitz* from earlier authors - Schottel 1641: "erschreckende Schnelligkeit"; Herder 1770: "das Urrplötzlichschnelle" (see Wandruszka 1952: 223).

As we gradually acquire our mother tongue, "our feeling etymologizes, so to speak, without any regard to historical linguistics" (Gabelentz 1891: 218). According to the ingenious comparisons advanced in 1879 by Mikolaj Kruszewski, "grammatical analogy" and so-called

"popular etymology" are two varieties - one morphological and the other lexical - of one and the same "integrating power" in the life of language: both of them display a mutual adjustment between competing paradigmatic items. Gabelentz, followed by Schuchardt, detected "a fruitful concept" in these historically "false" but synchronously valid etymologies, which are based on mass agreement within a given speech community. Words linked together by both sound and meaning manifest "elective affinities" (*Wahlverwandschaften*), able to modify the shape and the content of the vocables involved. The sound affinity may be provided by the similarity of initial and/or final sounds and clusters. The verb *stehen* 'stand' is felt to be related to the alliterative forms *stief* 'stiff', *starr* 'staring', *Stoek* 'stick', *Stamm* 'stalk', *steil* 'steep', *stopfen* 'stuff', *stauen* 'stow away', *Stab* 'staff', *stützen* 'stay, sustain', *stemmen* 'stem', "whatever they have to do with the root **stha*". There is a simultaneous concord in rhyme and sense between *stemmen* and *hemmen* 'hem' or *klemmen* 'squeeze' (p.219).

In his masterful observations on "Die Tonmalerei der Sprache und die Sinnensymbolik des Worts" Albert Wellak (1931a: 250) calls to mind Goethe's jesting lines from the *Walpurgis Night*:

Nicht Greisen! Greifen! - Niemand hört es gern,
Dass man ihm Greis nennt. Jedem Worte Klingt
Der Ursprung nach, wo es sich her bedingt:
Grau, grämlich, griesgram, greulich, Gräber, grimmig,
Eymologisch gleicherweise stimmig,
Verstimmten uns. -

For Gabelentz, monosyllables with the same "deep" ('dark') vowel, such as the *u* of curses like *Schuff*, *Hund*, *Lump*, etc., impart an identical mood. If, conversely, the sound difference is confined to the inner vowels of words similar in all other respects, the vocalic discrepancy in question persistently looks for a semantic motivation (p.363). In this connection, Gabelentz quotes the three Batta verbs *džazar* 'creep' (in general), *džirir* 'creep' (up to small beings), *džurur* 'creep' (up to big and frightful animals). A casual remark prompted by some Quechua examples and assuming a possible similarity common to the sound-symbolic pattern of quite different languages (p.218) awaits a systematic verification.

A decade later the French explorer Maurice Grammont (1866-1946) also overcame the attitude of an external onlooker, distant in time and/or space, and announced a strictly synchronic view of "expressive" or "impressive" phonetics, according to his varying terms. In

Grammont's studies (from 1901 to 1913 and 1933) the same close interplay between sound and meaning underwent a careful examination in terms of the syntagmatic (sequential) axis: chief attention was focused on the order of alternating phonemes in reduplicated or triplicated word forms and upon reiterated phonemes within syntactic groups. In his programmatic paper "Onomatopées et mots expressifs" (1901), Grammont persuasively declared that "the domain of onomatopoeia is much vaster than it seems to have been generally believed; the scope of expressive words, which are to be added, is not less considerable; and between the two fields there is no clear-cut boundary" (p. 319).

This experienced French phonetician was primarily concerned with the evocative value of vowels. For him their latent effectiveness was an objective, universal fact. But their significance actually manifests itself only when it is prompted by the meaning of the text or when it at least does not stand in contradiction to the latter; the degree of this significance depends, moreover, on the subjectivity of speakers and listeners, as well as on situations (p. 289). Affective speech and, even more, poetry were seen by Grammont as the most favorable contexts for a thorough realization or a full display of the hidden values of vowels. He concluded his paper with the following statement: "The values of a sound from the expressive point of view result uniquely from its nature and we have no right to attribute to the sound some value which would disagree with its nature. (...) All that we are empowered to do is to feel or not to feel in a given case the expressive value which is possessed by such a phoneme in *potentia*. The subjective component of these questions terminates herewith" (p. 321).

The peculiar "onomatopoeic apophony" (1901: 292), reduplication with a vocalic change in the repeated constituents, attracted Grammont's unflagging attention. There seems to emerge a universal or at least a round-the-world attested law in their construction. Triple groups generally are based on the relation [j] - [a] (sometimes [ã] or [æ]) - [u] - e.g. *pij-paj-puf* - and double formations on [j] - [a] (or more rarely, [u] - [a]) - e.g. *pij-paj* (or, for instance in German, *puj-paj*: cf. Spitzer 1927: 215). The persistent emergence of [j] as the first member of such groups contrasted with the following [a] led Grammont and some later examiners to speculate about the specific value of this vowel.

One must acknowledge that in setting the question of the proper semanticity of [j] Grammont did not confine the problem to the relation between front and back vowels, but realized the specific significance of the difference between the high front vowels, termed by him an "acute

species" (*espèce aiguë*), within a wider category of front vowels = "clear vowels" (*voyelles claires*) and contraposed to the back vowels generically termed *voyelles graves* and in turn divided into two species: higher vowels, labeled "dark" (*sombres*), and lower vowels, called "bright" (*éclatantes*) (see e.g. 1933: "Valeurs impressives des voyelles": 383 ff.). In his classification of vocalic values, Grammont specified nasal vowels as "damped" (*voilées*). He described for example the "clear vowels" as particularly able - in contradistinction to the heaviness of the grave vowels - to express "finesness, slighness, mildness, softness, and the correlated ideas" (1913: 248 ff.); "d'une manière générale les voyelles claires peuvent peindre à l'oreille tout objet tenu, petit, léger, mignon" (p. 251; cf. 269). As one of the illustrations, he quoted the following lines by Victor Hugo:

Quand la demoiselle dorée
S'envole au départ des hivers,
Souvent sa robe diaprée,
Souvent son aile est déchirée
Aux mille dards des buissons verts.
Ainsi, jeunesse vive et frêle,
Qui, t'égarant de tous côtés,
Voles où ton instinct t'appelle,
Souvent tu déchires ton aile,
Aux épines des voluprés.

In his classification of vocalic figurative capacities, Grammont, far ahead of the later inquirers into this field, added to the analysis of the front ~ back distinction also that of high and low vowels, but left unanswered the question of the interplay of two other pairs of properties: rounded ~ unrounded and lax ~ tense. One may note immediately that most of the difficulties which investigators of "impressive phonetics" met were due to the search for the proper value of entire phonemes and not of their distinctive features. Since the entire phoneme as a bundle of features contains a diversity of elementary properties - for instance, /ü/ is opposed to /i/ in one respect and to /u/ in a quite different way - the oversimplified assignment of the phoneme /ü/ together with /i/ to the "clear vowels" hampers the search for the *chiaroscuro* imagery hidden in the vowels. Thus, languages like French with its separate phonemes /i, ü, u/ differ from languages in which [i] is a mere contextual variant of /u/ or /i/. Most objections to the search for the inner significance of speech sounds arose because the latter were not dissected into their ultimate constituents.

The problems approached by Gabelentz and Grammont particularly attracted two other outstanding international linguists, Otto Jespersen (1860-1943) and Edward Sapir. Not only did each of them publish a series of pioneering contributions to this intricate field of investigation but they also wrote each other on this subject during the decade 1918-1928. Sapir "apparently sent his correspondent a large collection of raw data", and Yakov Malkiel (1978) is right in suggesting that it would be worthwhile to "salvage and publish this transatlantic exchange of letters". In a Danish essay of 1918 Jespersen acclaimed the coaction of the factors *physi* and *thési* in human languages, and in a discussion of the Danish *men* 'but' broached the question of "sound gestures" nesting in vocabulary, a topic already touched upon in Schuchardt's remarks on the *Lautgebärde* (1897) and inherent both in Grammont's comparison of articulatory movements, grimaces, and gestures (1901: 316f.) and in his concept of "articulatory gesture". The American English example of *nope* and *yep* discussed by Jespersen in this connection later was conclusively interpreted by Dwight Bolinger (1946).

Jespersen reviewed Saussure's *Cours* soon after its publication and criticized the Genevan for overexaggerating the role of arbitrariness in language and for minimizing the role of onomatopoeias and of sound symbolism (see 1933: 144). Later, the Danish linguist devoted three closely interconnected outlines directly to sound symbolism. In the first outline, published in the *Nordisk Tidsskrift*, Jespersen mentions his cooperation with Sapir, "one of the best connoisseurs of American Indian Languages" (1922a: 128).

Jespersen's first English argument for the wide import of "Sound Symbolism" - chapter 20 of the book *Language* - concluded with a vehement attack against the narrow antiquarianism of those linguistic tenets which still concentrated on merely historical etymologies, disregarding the etymological creativity of the living speech community, and assigning the creation and use of echoic and symbolic words solely, if at all, to former ages. In fact, the natural correspondence between sound and sense is a constantly renewable and vital process, whereby, as Jespersen believed, "languages in the course of time grow richer and richer in symbolic words" and develop progressively "towards a greater number of easy and adequate expressions - expressions in which sound and sense are united in a marriage-union closer than was ever known to our remote ancestors" (1922b: chap. 20, § 12). This remarkable chapter discusses the direct imitation of the audible phenomena

by sound production and the use of speech sounds, their groups, reductions, lengthenings, and omissions, to designate, metonymically or metaphorically, sound producers, movements, things and appearances, states of mind, sizes and distances. The suggestiveness of sound imagery makes some words "more fit to survive".

Most of the masterfully collected data exemplifying the widespread and productive "Symbolic Value of the Vowel *i*" are concentrated in the 1922 essay of this title (see now 1933). In the initial paragraph, after posting that "sound symbolism plays a greater role in the development of languages than is admitted by most linguists", Jespersen announced his "attempt to show that the vowel [i], high front unrounded, especially in its narrow or thin form serves very often to indicate what is small, slight, insignificant or weak" (p. 283). The survey detects this vowel in numerous words for little, for the child or young animal, for small things, as well as in diminutive suffixes, verbs meaning 'to make or to become small', etc. The associability of [i] with smallness and lightness first noted by Socrates, according to Plato's dialogue, has been repeatedly confirmed. For example, the feeling for the expression of relative smallness and bigness was documented by Swift's Gulliver, who called the land of dwarfs *Lilliput* and that of giants *Brobdignag*, while Gulliver himself in the latter country was reduced to *Grildrig*; "the word imports what the Latins call *nanunculus*" (a very small dwarf) (Jespersen 1933: 284). Gulliver's neutral human size found its opposites in the phonetically expressed dwarfness of the Lilliputians and on the other hand in the again phonetically expressed superhuman bulk of the giants.

Children's language is particularly rich in constructed pairs of sound symbolic /i/ and /u/ words, as was illustrated by Alf Sommerfelt (1892-1965) in a note on his three-year-old daughter, who cut two grotesque images out of a magazine: one was "Shadow" ("søber" and "heavy-jowled") and the other "Light" ("gay" and "radiant"). They were called *Mump* and *Mippe* respectively by the girl, and she never confused their names (1928: 30). In an experiment Maxime Chastaing (1965a: 41) asked fifty children between five and six to use [pɪn] and [pʊn] as names for two cardboard human figures; 76 percent chose *pɪn* for the smaller one and *pʊn* for the bigger one.

The ready associability of [i] with small things is explained by the high pitch of the vowel. Jespersen adds that the perception of the small lip-aperture "may have also its share in the rise of the idea" (pp. 284f.), but shies away from the later, often whimsical endeavors to find the ex-

planation for sound symbolism in the speaker's articulatory configurations. Jespersen recounts that during the great drought at Fredrikstad (Norway) the following words were posted in a W.C.: "Don't pull the string for *bimmelin*, only for *bummelum*." These instructions were immediately understood (p. 284) - obviously in view of the opposite size associations between the high sound of [i] and the deep sound of [u] (cf. the nursery references to *little business* and *big business*). In English a similar relation remains between the diffuse consonants and vowels of *peep* and the compact ones of *kaka*; however, an association with the difference between the anterior and posterior parts of the body referred to seems to be farfetched (cf. Wescott 1971: 421f.).

Sapir, who in his early manual was even inclined to see "a real psychological connection between symbolism and such significant alterations as *drink/drank/drunk*" (1921: chap. 6), continuously thought that "the sounds and sound processes of speech can not be properly understood in (...) simple mechanical terms" of "sensorimotor habits" (see 1949: 33). At the beginning of his "Study in Phonetic Symbolism", Sapir pointed out the phonetic difference between the emphatically diminutive *ee* of *teeny* and the normal *i* of *tiny*; for him this divergence was "directly expressive of the difference of meaning", and as early as 1929 (see 1949: 61 ff.) he called this type of relation "latent expressive symbolism". Two years before (1927), in a weighty essay on "Language as a Form of Human Behavior", unfortunately omitted from his *Selected Writings*, Sapir proclaimed: "If anyone is inclined to doubt the reality of such symbolisms in speech, let him try the following experiment which I have myself tried a number of times with practically 100% success" (p. 429). Listeners were asked to use the imaginary words *la*, *law*, *li* to name three tables of different size; they chose *li* to symbolize the small table, *law* the big one, and *la* a middle-sized table, a table *par excellence*. His subsequent experiments in this direction went far in demonstrating the reality of such unconsciously cogent feelings for the "magnitude-symbolism" of certain differences in vowels and consonants. According to Sapir, "to put it roughly, certain vowels and certain consonants 'sound bigger' than others" (p. 69). The relevance of Sapir's research greatly contributed to Jespersen's observations. Undoubtedly this inquiry would have been even more conclusive if the questions had concerned the symbolic relations within any single pair of phonemes and if the magnitude test had been complemented by tests involving a few other semantic pairs of associations as well.

Sapir's experiments in sound symbolism were further developed by his disciple Stanley Newman, who attempted to outline a symbolic magnitude scale of the entire American English vowel pattern. He subjected every pair of vowels to questions of their "small-to-large" or "dark vs. bright" symbolism. For all the respondents, all the vowels proved to be rigidly and similarly patterned on a symbolic scale, and this led to the conclusion that "the basis of phonetic symbolism is fundamentally objective" (1933: 75). The interpretation of consonants brought likewise interesting but less elaborated results. The judgments of small to large for *t-p-k* showed a consistent correspondence to the vocalic scale *t-u-a*, and permitted a clear inference to the equivalent structure of both the vocalic and the consonantal triangles (see above, p. 112) and to the constant order of the sequence *pij-paf-puf*. Newman's inspiring experimentation would have been even more conclusive if the question of binary relations had guided his mapping of sound symbolism and if his careful regard for symbolic value had overcome his bias toward determinant "mechanical factors". To what risky speculations such a bias can lead may be illustrated by Peterfalvi's complementary note (1970: 63; cf. Genette 1976: 409) about Newman's evidence that the acute vowels seem to us "the lightest": Peterfalvi alleges that the acute vowels articulated toward the exterior of our bodies are judged to be "light", whereas those articulated toward the interior are imagined to be "dark", because "the further you penetrate into the body, the darker it is there"! A collection of fanciful explanations of the light ~ dark sound symbolism was meticulously brought together by Fónagy (1963: 60 ff.).

In any case, Sapir's and Newman's scrutiny eloquently shows how rapid and fruitful, both for linguistics and for psychology (cf. Bentley & Varon 1933), this new stage of inquiry into sound symbolism was, as compared with the meagerness of Debrunner's earlier historical survey (1926). Questions about how far the actual lexical and morphological stock of language reflects the symbolic value discovered in the sound pattern by Sapir and Newman led to several studies (by Orr 1944 & 1945; Thornidike 1945; Wandruszka 1952, etc.) and brought to light especially the phenomenon of "antiphony, i. e. the opposition of vowel sounds in words relating to, roughly, the same psychological field: e. g. *tip* and *top*, *slit* and *slot*, *strip*, *strap*, and *strop*" (Orr 1945).

The question of the congruity between the purport of speech sound sequences and abstract graphic figures was posed by the Georgian psychologist D. Usnadze (1924) and taken up again by Köhler (1929),

but the longest series of experiments was devoted to the question of whether, and if so, to what degree, lexical oppositions in meaning bear any consistent lawful relation to the symbolic properties of sounds or, as Hornbostel (1927 a) termed them, *Lautesinn* ('sound sense'). (See in particular Tsuru & Fries 1933; Brown et al. 1955; Maltzmann et al. 1956; Brackbill & Little 1957; Wertheimer 1958; Brown & Nuttall 1959; Miron 1961; Taylor & Taylor 1962 & 1965; Taylor 1963; Oyama & Haga 1963; Weiss 1963 a & b, 1964 a & b, 1966; Johnson et al. 1964; Atzet & Gerard 1965; Ertel 1969; Roper et al. 1976.) One of the chief means used was asking the experimental subjects to guess at the correlation between two antonyms in a language unknown to them and the corresponding pair of antonyms in their native language. A few of these and similar experiments produced correct responses, which were viewed as mere chance by distrustful critics; some other cases gave rather negative results.

In these deciphering efforts too many complex factors were involved to permit less uncertain conclusions. Roger Brown et alii went so far as to affirm that their "investigations, using three lists of English words and six foreign languages, have shown superior to chance agreement and accuracy in the translation of unfamiliar tongues" and that such an "accuracy can be explained by the assumption of some universal phonetic symbolism in which speech may have originated or toward which speech may be evolving". In any case, "some kind of imitative or physiognomic linkage of sounds and meanings" seemed evident to the investigators (1955: 393). However, the desired solution to the question of whether there exists a universal sound symbolism still requires a preliminary crosslinguistic comparison of the framework of distinctive features and their groupings in the languages confronted. Nonetheless, it becomes ever clearer that when the diversity of the systems brought together is taken into account, a general pattern of sound-symbolic values stands out and we face two urgent and responsible problems - the sound-symbolic typology of languages, and the sound-symbolic universals ensuing from such a typology - as a counterpart and superstructure to the equally important, likewise typological and universalist questions bearing on the structuration of distinctive features. Cf. Peterfalvi's critical survey of the studies and tasks involved (1970: chap. 5).

The symbolism of French vowels found an assiduous observer in Maxime Chastaing. His main essays treat in particular the vowel /i/ and its associations with acuteness and smallness, and are accompa-

nied by excurses on lightness, rapidity, and closeness (1958), as well as the light ~ dark opposition of front and back vowels (1962), and by his concluding research on the vocalic symbolism of smallness (1965 a). In the latter work there are germane remarks on the role of this symbolism in the distribution of vowels between the various strata of French vocabulary, but Chastaing leaves open the question of to what degree such symbolism dictates the selective changes and selective conservation of vocabulary and to what degree the lexical stock itself furthers sound symbolism. A few casual notes by this inquirer assess the symbolic values of consonantal oppositions, and from this point of view examine the opposition of tense and lax consonants in French (1964). He was inclined to assign "hardness" to the stops, as opposed to the "soft" continuants (1965 b), and noted that his students felt /r/ to be "very rough, strong, violent, heavy, pungent, hard, near-by, and bitter" in contrast to /l/, which seemed "light-weighted, debonaire, clear, smooth, weak, sweet, and distant" (1966: 502f.).

Most instructive are the tests carried out by Fónagy (1963) with groups of Hungarian children and adults. The comparison of /i/ and /u/ gave the following impressive results: /i/ was "quicker" than /u/ for 94 percent, "smaller" for 88 percent, "prettier" for 83 percent, "friendlier" for 82 percent, "harder" for 71 percent, whereas /u/ was "thicker" for 98 percent, "hollower" and "darker" for 97 percent, "sadder" and "blunter" for 92 percent, "bitterer" for 86 percent, and "stronger" for 80 percent (pp. 42f. & 120f.); equally illuminating are the responses of the subjects concerning the symbolic relation on the one hand between /r/ and /l/ (the former was "wild, pugnacious, manly, rolling, and harder" for the overwhelming majority), and on the other hand between the Hungarian dentals (diffuse acute) and palatals (compact acute): the latter were sensed to be "more humid" than the former.

II. SYNESTHESIA

Such evaluations, universal insofar as they find support in the sound systems of the given languages, are obviously far from being accidental. It should be remembered that such contrasts as light ~ dark, light ~ heavy, and small ~ big belong to the "elementary structures required by perceptual differentiation" (see Wallon 1945: 129), and it is no wonder that they build constant (or near-constant) and universal linkages with the elementary features underlying the languages of the

world. Peterfalvi, in his exemplary monograph on sound symbolism (1970), refers (pp. 44f.) to P. Guillaume's *Psychologie de la forme* (1937), which pointed to the multivalued symbolism contained in speech sounds as universal synesthetic givens; on these premises Peterfalvi foresaw the progressive access of science to the biopsychological universals which underlie the ubiquitous and everlasting systematic features of the distinctive features and of their symbolic capabilities (pp. 156f.).

The intricate questions of the phenomenal interconnection between the different senses – briefly, the problem of synesthesia – came to light once again through the many-sided development of the linguistic and psychological preoccupation with sound symbolism in its various aspects. "Les Synesthésies" is the subtitle of Chastaing's paper inviting the readers to give their personal responses to one of the most striking and entangled facets of synesthetic questions, namely *audition colorée* ('colored hearing'), an old term which he revived (1960). In the course of two months Chastaing received 133 replies. Despite the variability of the answers, the inquirer did not overlook the manifest attractions between certain colors and phonemes, nor did he make a concession to the hasty assumption that "each person sees the vowels in his own way". The coherencies emerging between the color and sound patterns were too palpable to be denied (1961: 359ff.). Thus, for instance, the unambiguous tendency to feel that the back vowels are "darker" and the front vowels are "lighter" finds further support in the assignment of darker colors to back vowels and light colors to front vowels by diverse kinds of observers.

The chief difficulty in answering the question of what colors one associates with each of the vowels of one's language lies in the double operation with a plurality of two kinds of things, vowels and colors. The task becomes much more concrete and feasible when the respondent has to deal with the binary relations between any two given vowels and any two given colors. The sagacious Clark University psychologist, Heinz Werner (1890–1964), recommended to experimenters that they present a subject with successive pairs of vowel sounds along with diverse successive pairs of colors and then ask him which pairs of speech sounds and colors he feels to be closest. Through such a series of steps one comes to grasp the fundamental polarities which tie together the colors and the distinctive features of language (cf. Karwowski et al. 1942: 216).

One cannot but agree with E. H. Gombrich (1961²: 370f.) that

the problem of synesthetic equivalences will cease to look embarrassingly arbitrary and subjective if, hereto, we fix our attention not on likeness of elements but on structural relationships within a scale or matrix. When we say that *i* is brighter than *u*, we find a surprising degree of general consent. If we are more careful still and say the step from *u* to *i* is more like an upward step than a downward step, I think the majority will agree, whatever explanation each of us may be inclined to offer.

This expert in the language of pictorial representation expresses his belief "that once again the research of linguists offers us the best chance to make this much discussed problem a little more manageable". To try out the linguistic suggestion that synesthesia concerns relationships he uses a 'party game':

It consists of creating the simplest imaginable medium in which relationships can still be expressed, a language of two words only – let me call them *ping* and *pong*. If these were all we had and we had to name an elephant and a cat, which would be *ping* and which *pong*? I think that answer is clear. Or hot soup and ice cream? To me, at least, ice cream is *ping* and soup *pong*. Or a Rembrandt and Watteau? Surely in that case, Rembrandt would be *pong* and Watteau *ping*. I don't maintain that it always works, that two blocks are sufficient to categorize all relations. We find people differing about day and night and male and female, but perhaps these different answers could be reduced to unanimity if the questions were differently framed: pretty girls are *ping* and matrons *pong*; it may depend on which aspect of womanhood the person has in mind.

The consistent application of binary oppositions for the vowels' symbolic values – brighter ~ darker, bigger ~ smaller, thinner ~ thicker, harder ~ softer, lighter ~ heavier – furthered the stimulating experiments by Eli Fischer-Jørgensen on the reactions of Danish students to the perceptual systematics of Danish vocalism; however, she found that presenting vowels *en bloc* "in alphabetic order" without dividing them into successive opposite pairs led to "not very clear results" (1967).

The advancement of a general vowel theory brought into relation with principal adjacent fields of human experience was charted by Wolfgang Köhler (see above, pp. 132f.), whose conception had been aptly anticipated in the early nineteenth century by the English scientist Robert Willis (1800–1875). According to the latter's treatise published in 1830 by the Cambridge Philosophical Society: "the generality of writers who have treated on the vowel sound appear never to have looked beyond the vocal organs for their origin (...) considering the vowels in fact more in the light of physiological functions of the human body than as a branch of acoustics" (p. 231). Willis decided

to lay down a different plan of operation: namely, neglecting entirely the organs of speech to determine, if possible, by experiments among the usual acoustic instruments, what forms of cavities or other conditions, are essential to the production of these sounds, after which, by comparing this with the various positions of the human organs, it might be possible, not only to deduce the explanation and reason of their various positions, but to separate those parts and notions which are destined for the performance of their other functions from those which are immediately peculiar to speech (if such exist). In repeating experiments of this kind, it must always be kept in mind that the difference between the vowels, depends entirely upon contrast. [pp. 233f.]

Willis's program, independently resumed and widely advanced by Köhler (cf. his note 1910a: 288f.), grew into an inspiring demonstration of the original character and consistent structuration proper to the human vocalic framework (cf. Köhler 1915, commented upon by Stumpf 1926: 320ff.).

The fundamental role of the light ~ dark opposition in the structure of both the vocalic and the consonantal patterns was first outlined by Köhler. Let us now repeat and underscore that for him, lightness and darkness as names for this phenomenon were far from being "mere metaphors", but were rather designations of actual "intersensory analogies", phenomenological correspondences pointing to a "central physiological perceptual correlate" (1915). The analogy with the arrangements of different sense domains is evident here and leads to the unprejudiced conclusion that the vowel system displays "almost the same fundamental properties [*Systemeigenschaften*] as the chromatic colors" (p. 192). The hypothesis that light ~ dark is a universal attribute of all senses is constantly being tested in new domains. More and more the continuing inquiries into the inner organization and grouping of colors reveal a concrete coherence between speech sounds and colors and give rise to the thesis that sensation should be described in terms of polar oppositions (Hartshorne 1934: 134). In particular, we refer to Hering's opponent-process theory of color vision being developed by Leo Hurvich & Dorothea Jameson, which treats these processes as a model of neural organization (see especially 1957, 1974): the two members of each pair, such as white ~ black and yellow ~ blue, "are opposite, both in terms of the opposite nature of the assumed physiological process and in terms of the mutually exclusive sensory qualities" (1957: 385).

Proceeding from the evolving analysis of colors and from their assessment in recent anthropological literature (such as Berlin & Kay

1969, and Turner 1967), Marshall Sahlins (1976) has approached the discrimination of lightness and darkness as the most rudimentary distinction, "perhaps universally significant" and semantically motivated for any given culture; he considers the second stage "in the evolution of basic categories" to be the opposition of red, which "has the most color" and which "is to the human eye the most salient of color experiences", and the black ~ white achromaticity. This "triad of red-white-black" as "the substantive perceptual result of the crossing of the basic dark/light dualism by a second contrast in hue/neutrality" (Sahlins: 14) significantly corresponds with the primary triangle *a-p-t* of child language (see above, pp. 111f.; cf. Turner 1967: 60, on the tripartite classification which relates to the colors white, red, and black in African rituals). The binary light ~ dark oppositions, which underlie the pairs of achromatic white and black, of attenuated chromatic yellow and blue, and finally of optimally chromatic colors, are noticeably correlated with the grave ~ acute oppositions which underlie the pairs of diffuse (achromatic) consonants and of diffuse (attenuated chromatic) and compact (optimally chromatic) vowels (cf. Vallier 1978).

We could continue our comparative survey of the striking correspondences between the respective organizations of the hue-coding system and the network of distinctive features (cf. above, p. 132f.), but let us merely conclude, along with Hurvich & Jameson (1974: 101), that "the opponent-process concept, used as a guiding principle in analyzing specific aspects of particular psychological phenomena, may continue to provide the most useful key to the behavior of the nervous system, as it has already proved to do in the analysis of particular visual [and, let us add, speech sound] phenomena".

The role of sound symbolism in our mental life found an original and penetrating interpreter in Benjamin Lee Whorf (1897-1941). In a paper (see 1956: 267f.) written shortly before his untimely death he pointed out:

in the psychological experiments human subjects seem to associate the experiences of bright, cold, sharp, hard, high, light (in weight), quick, high-pitched, narrow, and so on in a long series, with each other; and conversely, the experiences of dark, warm, yielding, soft, blunt, low, heavy, slow, low-pitched, wide, etc. in another long series. This occurs whether the words for such associated experiences resemble them or not, but the ordinary person is likely to notice a relation to words only when it is a relation of likeness to such a series in the vowels and consonants of words.

Whorf notes that "the vowels *a* (as in 'father'), *o*, *u* are associated in the laboratory tests with the dark-warm-soft series, and *e* (English *a* in

'date'), *i* (English *e* in 'be') with the bright-cold-sharp set. Consonants also are associated about us as one might expect from ordinary naive feeling in the matter." He considers particularly significant the fact that

language, through lexation, has made the speaker more acutely conscious of certain dim psychic sensations; it has actually produced awareness on lower planes than its own: a power of the nature of magic. There is a logic mastery in the power of language to remain independent of lower-psychic facts, to override them, now point them up, now toss them out of the picture, to mold the nuances of words to its own rule, whether the psychic ring of the sounds fits or not. If the sounds fit, the psychic quality of the sounds is increased, and this can be noticed by the layman. If the sounds do not fit, the psychic quality changes to accord with the linguistic meaning, no matter how incongruous with the sound, and this is not noticed by the layman.

It would be difficult to present more pointedly the link and competition between the mere building-block use of the phonemes and the universal feeling-content, "basically alike for all persons".

The relation of, let us say, /i/ and /u/ as *signantia* to such *signata* as smaller ~ bigger, quicker ~ slower, more ~ less pretty, more ~ less friendly, bitterer ~ sweeter, is much more likely to be noticed by the layman than is the correspondence between the constituents of two homologous sensory patterns of *signantia*, the spatial pattern of colors and the temporal one of speech sounds. The main reason for the lower uniformity and greater vacillations in the layman's direct ascription of colors to the vowels probably lies here. Hornbostel collects having seen "mother and daughter arguing furiously": - *Eis red!* No, yellow! - But to both it seemed bright, clear, and sharp" (1927b: 85). Nonetheless, as has been repeatedly noticed, the polarity of light and dark vowels enhances the visual contrast between the Latin *dies* and *nox* or between the Czech *den* and *noc* as compared to the French pair *jour* [zür] and *nuir* [nju] repudiated by Mallarmé because of its nonconformity to the usual correspondence (cf. R.-G. Cohn 1977). Among the polar semantic associations which, according to Whorf's summary (cited above) are tieable to the vowels /i/ and /u/, the Frenchman Lévi-Strauss (1976/1978) unconsciously chooses the vocalic and semantic correspondence between *jour* ~ *nuir* and the experiences of slower ~ quicker: "your has a durative aspect, congruent with vocalic gravity, NUIT a perfective aspect, congruent with vocalic acuteness: *ce qui, à sa manière, fait une petite mythologie*."

Albert Wellek, an expert in synesthesia (1931b: 330f.) and in the

history of its investigation, was astounded by one of the earliest communications in this field, John Locke's Essay III, 4: "A studious blind man, who had mightily beat his head about visible objects and made use of the explanations of his books and friends, to understand those names of light and colours, which often came in his way, braved one day, that he now understood what *scarlet* signified. Upon which, his friend demanding what *scarlet* was? the blind man answered, it was like the sound of a trumpet." And in Ernst Jünger's *Loß der Yokale* (1934: 32) it is written that "die Farbe, die wir für das A wählen würden, müsste das Purpur sein". The apparent connection between an optimally chromatic color such as scarlet and the optimally chromatic trumpet-ring and the summits of vocalic (/a/) and consonantal (/k/) chromaticity in the color name scarlet (škarlat) is indeed spectacular and evoked multiple responses in the writings of Anthony Ashley Cooper (third Earl of Shaftesbury), Henry Fielding, Adam Smith, and Erasmus Darwin. A man with a sharp feeling for "a congruity, a harmony, something like a logical relation" between speech sounds and colors, and especially between the vowel *a* and the color red, acknowledged that, if he had to underline words in a text with an *a*, he would use a red pencil, feeling that it was the right color, but would use other colors for words with other vowels (Beaunis & Binet 1892: 450).

Saussure's colleague, the Genevan psychologist Edouard Claparède (1873-1940), observed that the capability for comparison between colors and speech sounds seems to exist in each individual in at least an elementary stage (1900: 517), and in fact in this respect children manifest much more readiness to respond, a higher certainty in analogies between the two experiences, and less disagreement among themselves (see Reichard et al. 1949: 224). In Hornbostel's words: "what we knew as children, we now must grope for", because "sight and sound have fallen apart" (1927b: 89). Yet even in the responses of adults there are fundamental attractions between the two patterns, despite all their variability in detail; the prevalent redness of /a/, yellowness and whiteness of /e/ and /i/, and darkness of /o/ and /u/ clearly stand out (cf. Argelander 1927: chap. 5; Reichard 1945: 226, 231ff.; RJ1: 386ff.; Masson 1952: 40). Of course, what must be avoided is the mixture of these usual ways of translating from the speech sound to the color level with literary declarations often strained and deliberately made *à rebours*. Rimbaud's backwards proclamation - "A, noir corset velu des mouches éclatantes" - prompted skeptical attitudes toward the idea of 'colored hearing', attitudes which, let us add, still make use of

the acoustico-visual view of /a/ propounded by this poet (see Clavière 1898: 163f.).

It is true that various factors, in particular the lesser separability of consonants in our actual verbal experience, and their more or less achromatic greyish character, hamper the exact determination of consonantal links with colors: consonants "have no patent colors [*couleurs franches*], they are all more or less greyish" (Beaunis & Binet 1892: 456). Nonetheless, the fundamental consonantal categories such as, in particular, grave ~ acute are easily recognized by the respondent as parallels to the dark ~ light pairs of opponent colors.

III. WORD AFFINITIES

In some cases to a wider, and in many others to a lesser extent, most languages of the world show a marginal set of vocables which are semantically fluid, more expressive than cognitive, and which open broader possibilities for sound symbolism. At present, these lexical strata, which until recently were considered to lie beyond the bounds of language proper, are beginning to attract a greater attention from linguists, as William Samarin has particularly emphasized in his study about inventory and choice in expressive language (1970). Here he deals in particular with words termed "ideophonic" in the Africanistic terminology. The author claims that for some of these languages, for instance Gbeya, he has a file of about five thousand ideophonic adverbs, which he compares with the Korean "impressionistic" adverbs (or "minetics") examined by Samuel Martin (1962) and with analogous phenomena in Turkic, Malayan, American Indian, and some other languages. Analogous formations in Japanese were termed "sound gestures" by Evgenij Polivanov (1891-1938) and in 1916 were subjected by him to a minute analysis (reproduced in 1968). Closer attention to the extent and display of the *Lausim* (see above, p. 190) in these varied types of ideophones is a timely pursuit for the science of language.

One manifold class of constructions which directly and patently connects sound and meaning is so-called 'reduplication'. Sapir's *Language* (1921: chap. 4), in portraying grammatical processes, clearly delineates the typical traits of reduplication, the tight repetition of entire words or of all or part of their radical elements: "Words of these types are all but universal." This process exhibits tremendous semantic vari-

ety and is "generally employed, with self-evident symbolism, to indicate such concepts as distribution, plurality, repetition, customary activity, increase of size, added intensity, continuance." In short, we are dealing with an "exuberantly developed" variation of one and the same quantitatively or qualitatively augmentative meaning, a meaning of effected continuous or discontinuous repetition, as Sapir's (1921) collection of examples (complemented especially by Gonda 1950; cf. H. Key's brief overview 1965) conclusively illustrates. Thus, the iconicity relation between the reduplicated form incorporating the more-than-one appearance of the word with itself and the idea of more-than-one in the semantic content of these words (e.g., Somali *fen-fen* 'to gnaw at on all sides' from *fen* 'to gnaw at') is the principle connecting the "process" and the "concept" of reduplication. Moreover, the diversity of variables is reinforced by the emotive, emphatic character usually inherent in reduplication.

The affective and in part directly genetic connection between reduplication and nursery vocabulary furthers the often childish style and playful character of this construction. Yet there is a clear-cut difference between total or partial repetition of existing words and the repetition of syllables which do not exist in the lexicon outside of such binomials. In the latter, the reiterative tinge of meaning is not necessarily implied, and such reduplication of syllables common in children's vocabulary and in infant-adult nursery language fulfills a different function. By the repetition of the same syllable, children signal that their phonation is not babbling but a verbal message to their adult interlocutor, and through reduplication the child recognizes a message addressed to him and is helped by the repetition to decode it. The process of reduplication is similar here to the iteration of verbal and other acoustic signals in long-distance navigational communication. As noted by Lévi-Strauss (1964: 345f.), such a reduplication "a pour fonction de signaler la signification". A large number of units used only in reduplications are either onomatopoeic imitations of natural and instrumental sounds or metonymic designations for the originators or activities concomitant with these sounds (cf. the comprehensive review of such lexemes by Gonda 1940), and in its semantic function this type of iteration distinctly differs from the reduplicated forms built from simple, independently existing units.

The relation between the functions of reduplicative words and between such words and other lexical strata, the place of reduplicated forms in the different styles of language, and the geographical distribu-

tion of the various relations – all these questions are only beginning to be examined with sufficient precision, and we need thorough monographic studies on the position and character of these peculiar types of words within diverse languages. Nils Thun's industrious dissertation (1963), *Reduplicative Words in English*, based on a collection of about two thousand samples of (1) "identical reduplication", (2) reduplication with change of initial consonant, and (3) reduplication "with change of stem vowel", confronts us with numerous unsolved problems. In particular this raises the question of the functional distribution of these three types of reduplication, both in English and in other languages of the world, and points out the necessity of searching for the structural rules of consonantal and vocalic alternations both in English and in any language where such alternations exist.

Words undergoing reduplication are augmented both in their form and in their meaning. They are "italicized". The dissimilation of the initial consonants renders the iterative reinforcements more sharply discernible and in Russian, for instance, impart to the reduplication a somewhat playful, "advertising" touch, and at times an ironical, disparaging, inflated character. Thus *zakón* means 'law', *zakón-makón* 'a frivolous, disrespectful kind of law', and *sifilis-pifilis* 'such a nothing as syphilis'. The extensive role of reduplication, with the change of identical consonants in Russian and a few other Slavic languages, is based upon the Turkic model; and in the Slavic as well as in the Turkic area the dissimilation of consonants is subject to a set of strict rules which make the juxtaposition of paired words particularly conspicuous. In Russian pairs of alternating initials, the leading role belongs to labial (grave diffuse) consonants, especially to the nasal /m/. The two alternating consonants cannot be both acute (dental), both grave (labial), or both compact (velopalatal); thus, the three summits of the consonantal triangle underlie the dissimilation, with exceptional combinations of nasal and nonnasal labials: e.g. *barán-marán* 'a good-for-nothing ram' (cf. RJ V: 343 f.). The basic ordering principle of vocalic alternation in languages where it is used in reduplicative words is (cf. above, p. 184) the progression from a diffuse vowel, especially /i/, to a compact one. (Cf. the overwhelming predominance of *i* as the first of the vocalic alternants in English [e.g. Thun 1963: 220] and on the other hand the rare occurrences cited by Gonda, such as Javanese *djas-djis* 'worthless' and *far-tir* 'run up against...'. [1940: 189].)

The English reduplicative *flip-flap* (or *flip-flop*), with its two regularly alternating vowels, one diffuse and the other compact, is actually

composed of two forms (either verbal or nominal) which are different and yet related, thanks to their common consonantal frame and to the mutual proximity of meanings. These two factors suffice to reveal the relationship of these same words even when used separately. Within one and the same language many words disclose arresting similarities both in sound and in meaning, and whether these verbal ties go back to a genetic kinship or not, the outer and inner affinity between such vocabularies is intuitively felt by the ordinary members of the speech community: "the tendency of forms to mold themselves on other forms with like meanings, and meanings to mold themselves on other meanings, conveyed by like words, is universal", as was convincingly accentuated by Dwight Bolinger, the expert in the revelation and interpretation of these "verbal affinities" based on "the grouping of similar meanings about similar sounds".

Three centuries after the initial efforts of John Wallis (1653) it was Bolinger who made momentous achievements in such an interpretation of the English lexicon (a series of studies summed up in his book of 1965). Both *flap* and *flip* belong, in Bolinger's view (1965: 245 f.), to two "constellations of words": "the family of *slap, clap, rap, tap, flap*, and *lap* denotes actions that strike and then glide off," while "a lighter, or sharper blow or its result is suggested by the group *nip, clip, tip, sip, dip, grip, pip, quip, yip* (contrast *yap*), *flip* (contrast *flop* [and *flap*]), *drip* (contrast *droop* and *drop*)". The postvocalic labial stop at the end of the monosyllable is sensed to be like a 'blow', and the /i/ vs. /æ/ opposition seems to suggest a briefer focus upon the action. Both *flap* (*flop*) and *flip* belong to the family of initial *f*-clusters, which has repeatedly attracted Bolinger's attention (pp. 198, 207, 217) and which Jespersen (*Language*, 1922b: chap. 20) earlier had singled out as expressive of movement; he quoted *flow, flap, flake, flutter, flicker, fling, flit, flurry, flirt* (sect. 5; cf. Marchand 1959: 154, 266 f.).

Bolinger drafted the principles of a *sui generis* synchronic etymology. Collocations of phonemes common to a set of words and suggestive of a stronger or vaguer semantic interconnection were extracted in his verbal analysis as "submorphemic differentials"; these were also labeled "psychomorphs" by Markell & Hamp (1960-61: 1), while Householder (1946: 83) made use of the term "phonestheme" and maintained that about 15 percent of standard English monosyllables with a stress on /æ/ belong to phonesthemes or at least are tied with them by secondary associations. In the discussion of Householder's conclusions, Giuliano Bonfante pointed out that in Latin and in Indo-

European, short /ä/ 'is found almost entirely in words of a special kind, referring to diseases and physical defects, or infantile expressions" and that in all German words, except perhaps *Deutsch*, the sound /č/ 'is clearly expressive" (1939: 84). Thanks to the expressiveness of the sound groups involved and to the ostensibility of such "submorphemes," this class (as observers note) also possibly attracts new members by borrowing or by neology and at the same time furthers the survival of the class' older members; thus, it may achieve a higher semantic cohesiveness. There truly exists an interplay between the fact which Bolinger has called "sound suggestiveness" and "the creation of counters or tools which in essence are not suggestive but manipulable" (1965: 192f.). Whatever it may be, the patent or latent role played by the "intrinsic value", *videlicet* by the spell of the speech sounds, is undeniable.

Not only does Bolinger consider continuous and discontinuous clusters, e.g. the set /str-p/ which in *strip, strap, strope, stripe* refers to a "fine having breadth" or the set /sp-t/ which in *spit, spate, spout* refers to a "rush of liquid" (p.224), as submorphemic differentials, but he notes also that in certain positions single phonemes appear to be treated in similar terms, e.g. the tense /u/ in words which "suggest foolishness" - *rube, boob, galoot, loon*, the verb *moon, nincompoop, stooge, cooco, goof, spoof*, etc. (p.200). It may be added that such submorphemic differentials occur both within lexical and within grammatical morphemes, namely within affixes. Thus, as discussed above (p.59), among Russian declensional desinences only the endings of two 'marginal cases', instrumental and dative, may include the phoneme /m/, while the Polish desinences of the instrumental go even further in assigning a compulsory character to a submorphemic differential and in reducing its size to a subphonemic, featural level. Any desinence of the Polish instrumental must contain the nasal feature, represented in a one-vowel ending by vocalic nasality and carried elsewhere by the phoneme /m/ (RJ II: 181).

Hans Marchand, who devoted a detailed study to "phonetic symbolism in English word-formation," declares that he split roots into their components: in his opinion roots are not indivisible units, but are composites, as, for example, *fl-ash, fl-ick*, with a modification of the vowels or the consonants (1959: 153). He divides the extracted components into initial and final symbols, consisting of alliterative sounds or clusters in the first group and of "their rhyming counterparts" in the latter class (pp.155ff., 264ff.), and he assigns to both classes of such various

sound symbols the capacity of creating actual word affinities. Nevertheless, he himself asserts "the impossibility so far to find out what the symbolism is based upon". In his earlier study (1957: 56), Marchand posited that "the symbolism underlying ablaut variation is that of polarity which may assume various semantic aspects". Likewise, Morton Bloomfield (1953: 160f.) insisted on the importance of "semantic-sound parallelism" which "probably moves on a subconscious level".

Sometimes, in describing languages of a remote structure, the idea of segmenting roots into smaller significant units with their own sound-symbolic value suggests itself. Diffloth, in his essay on the "very large word-class" of "expressives" (or "ideophones") in Semai, an Austroasiatic language, countered the evidence that neither expresses nor certain verbs and nouns related to them are subject to the condition of "lexical discreteness". There arose the obvious question of whether one should not be prepared "to discard the conventional notions of root and morphology" (1976: 261). Perhaps the most impressive attempt to disclose the sound-symbolic components of grammatically indissoluble units was the tentative paper by Gladys Reichard about "Composition and Symbolism of Coeur d'Alene Verb Stems" (1945). In addition to a vocalic symbolism discernible within a few verbal categories, the study detects a consonantal symbolism which displays a similar specifying effect on the meaning of the stem, no matter whether the consonant's position is initial or final. In Reichard's opinion, "the suggestions offered by such an analysis are fascinating and (...) rewarding, especially when compared with similar attempts at breaking down the phonetic structure of stems so as to relate the sounds to meanings, as has been done with other languages, English for example, chiefly with negative results" (p.53).

IV. SOUND-SYMBOLIC ABLAUT

The morphological utilization of the substitution of features in certain consonants or vowels within the root of a word and sometimes also within its affixes is a particular example of the use of single sound differences in the direct service of grammatical meanings. This sound-symbolic ablaut has its widest spread in America, especially in the northwest, where the investigation of these phenomena has disclosed various diffusional strata and directions (cf. e.g. Nichols 1971: 837ff., and Haas 1970). While in America it is mainly the inherent features of con-

sonants or less frequently of vowels which undergo such shifts, in Africa the main alternations of this type are chiefly in prosodic features. Cf. Westermann's references 1927 and 1937 to the opposition of low tone vs. high tone in Yoruba to designate the difference between large and voluminous vs. small and slender, with various metaphorical modifications of meanings, e.g. *birì* 'to be large', *birì* 'to be small', *širù* 'to be big', *širù* 'to be little', *gbòrò* 'to be wide', *gbòrò* 'to be narrow', *kbihi* 'of big size', *kbihi* 'of small size'; see also Westermann's similar examples for Ewe (1927: 323; 1937: 193) and Wescott's observations on Bini (Nigeria) "tonal icons", uniformly high-tone adverbs for "tall, thin, tight" vs. low-tone adverbs for "short, thick, loose" (1973). There is, moreover, an analogous utilization in Ewe of the qualitative differences between dark and light vowels (Westermann 1927: 324ff.; 1937: 171). In Avatime, lax consonants correspond to large objects, and tense consonants to small ones: *tóió* 'with small opening' - *dóó* 'with large opening', *kpókpo* 'thin' - *gbògbò* 'thick' (cf. in Ewe *kpóvíó kplé gbòvíó* 'here and there [near and far]', "with a parallelism of high tone and tense consonant, of low tone and lax consonant" in the two languages (p. 327). Particularly illuminating are Westermann's remarks on compact consonants (1937: 205): "In Ewe 'sound images' [Lautbilder, later named 'ideophones'], it's the energetic character of an explosive back sound which determines the essence of *g*. The acoustic impression is decisively harsher than that of *b*. Hence *g* assigns a strength to the meaning of something bent, resistant, violent, primarily before *a*" (cf. above, pp. 102f.), and *x* in turn receives a similar semantic evaluation (1937: 208). A rare example of a European use of a productive sound-symbolic ablaut is the Basque formation of diminutives by the sharpening (palatalizing) of dentals and sometimes velars (Lafitte 1962: 147).

Johanna Nichols' detailed survey of consonantal alternations in Western North American languages (1971) is a valuable contribution to the future systematic analysis of this peculiar and complex set of sound shifts and offers an ordered collection of previously scattered linguistic observations on Amerindian languages. Nevertheless, there is still need for a more systematic analysis of the sound changes undergone and of their semantic import, and for a clearer view of the various stages in the continuously productive or merely residual character of the ablaut rules. It must be repeated, however, that in finding a more exact answer to all these questions the classifier is hampered by the many serious gaps in the available materials.

In regard to the semantic scope of the two directions of gradation (diminutive, augmentative), Nichols notes that the meanings conveyed by diminutive shifts "may symbolize only the large/small contrast, or may involve extensions of this semantic domain such as bright/dark, light/heavy, quick/slow, near/far, and the endearing and pejorative senses" (p. 828). The chief topic of Nichols' outline is the "diminutive consonantal symbolism"; this is the natural first step, because the diminutive meaning in its various nuances and metaphorical and metonymic extensions proves to be the most widely spread of the shifts under discussion. The opposite function of such sound alternations is the buildup of augmentative forms, but in languages with merely two terms of sound-symbolic gradation, either the opposition is confined to the diminutive vs. a neutral meaning, or else the neutral meaning is opposed to one 'marked' category, labeled "affective" by Nichols (p. 827) and "comprising both diminutive and augmentative". Thus all languages with an augmentative category also possess a diminutive one: "an augmentative shift presupposes a diminutive shift" (p. 827). Also, in languages which besides the neutral category possess the diminutive and the augmentative, the diminutive is usually represented by a higher number of lexical examples than the augmentative.

Particularly helpful for the comprehension of the sound-symbolic ablaut in single languages are detailed and careful descriptions like the one compiled for Dakota by Franz Boas in cooperation with Ella Deloria, a sensitive indigenous research worker intimately familiar with the all-embracing symbolism of her native language and culture. According to Boas & Deloria, "the vocabulary of Dakota shows clear evidence of an ancient sound symbolism. It is not a live process but it may be illustrated by many examples" of words which change their hushing (acute compact) continuants into hissing (acute diffuse) continuants to proceed from a neutral level of designated intensity to a low, diminutive grade; similarly the change of hushing (acute compact) continuants into corresponding velar (grave compact) continuants suggests the highest, augmentative grade of intensity (1941: 1, 16f.): diminutive *suza* 'it has a slight bruise' - neutral *šúža* 'it is badly bruised' - augmentative *xuža* 'it is fractured'. There occur forms with the analogous vocalic alternations of a diffuse *i* diminutively oriented vs. the neutral acute compact *e*, and a grave compact *a* augmentatively graded: *kpi*, *kpe*, *kpa*, "which mean in order a light crackling, the noise of stick striking stick, and a sharp noise like that of a firecracker" (p. 1). The coauthor of Boas' *Memoir*, Ella Deloria, categorically associated these three

vowels with colors: /i/ with white, /e/ with yellow, and /a/ with red (Reichard et al. 1949: 231). "The importance of the acoustic sense expressed in Dakota appears particularly in the various forms of sound symbolism" (Boas & Deloria 1941: 1) and in "the particular kind of synesthesia between sound, sight, and touch" (Boas 1938: 132, and Boas & Deloria 1941: 1), an interrelation which also finds eloquent expression in the parallel Dakota alternation between colors and the consonants used in naming them: *zi*'it is yellow' - *zi*'it is tawny' - *yi*'it is brown' (1941: 18).

G. H. Matthews' interesting remarks (1970: 102ff.) on sound symbolism in the Siouan languages supplement Boas & Deloria's data: "What we see here exhibited is a rather direct correspondence between sound and meaning, i. e., the occurrence in a stem of a dental, palatoalveolar, or velar obstruent continuant corresponds to an aspect of the meaning of the stem which might be characterized as diminutive, normal, and augmentative respectively" (cf. his Dakota examples *pitiza* 'bent', *pitiza* 'pieces cracked but not broken off', *pitiza* 'pieces broken off'). "This sound symbolism is what might be called semi-productive in Dakota, i. e. many speakers are aware of it and may produce new stems on analogy with existing stems and the sound symbolism. However, these newly created stems are used for the most part in jokes and puns, and do not normally become a part of the language." Matthews refers to some other Siouan languages in which "the sound symbolism is in no way productive, although there are a number of pairs and a few triples of stems in these languages which clearly exhibit it". Whereas in the subfamily, Mississippi Valley Siouan, the sound symbolism possibly "has a certain degree of productivity."

In his discussion of sound symbolism, Boas (1938: 132) maintained that "it is not by any means certain that the same impressions are conveyed in all languages, but similar phenomena are not rare". Furthermore, Sapir (1911: 645f.) and Nichols (1971: 838) disclosed an important principle: the presence of a conventional grammatical alternation in a given language seems to preclude the occurrence of an identical sound-symbolic ablaut in that same language and in this way to limit the repertoire of such ablauts. In the American sound-symbolic ablaut it is the alternation of obstruents which plays the primary role, although vocalic alternations between vowels and between liquid and nasal sonorants also occur. In the diverse types of consonantal ablaut, strident consonants alternate either with each other or with nonstrident, mellow ones. Such is, for instance, the interchange of the uvular

affricate [q] and the velar [k] (Tillamook *wagag* 'frog' - *wiwetek* 'tiny frog') and the widespread alternation of [l] with the lateral affricate [ʎ]. In the diminutive consonantal ablaut, no interchanges are permitted between grave and acute consonants, and in grave consonantism, no exchange between diffuse and compact. The only alternating features proper to the abrupt consonants (stops and affricates) are the oppositions tense ~ lax and checked ~ unchecked (cf. above, pp. 147ff.). Thus, the only axial oppositions used are almost always those between acute diffuse and acute compact. The mutable compact consonants always imply the diffuse character of their counterpart in the ablaut. In turn, the diffuse consonants in such ablauts imply the compact character of their counterpart, with the exception of the alternation [s] ~ [ʃ] attested, according to Nichols (p. 828), by a very few and rather uncertain examples in Northern Paiute, Nez Perce, and Wishram. In addition, rare cases of strident laterals in an ablaut with sibilants are also noted.

The direction of sound change from the neutral to the diminutive form can oscillate, and reverse tendencies in the distribution of alternants are observable in various American languages which utilize sound-symbolic ablauts. However, the favored and most frequent patterns help to reveal the general factors underlying the assignment of the alternatives. For instance, the favored diminutive function of the diffuse consonants in opposition to the neutral function of the compact ones finds a clear and persuasive interpretation on the auditory, perceptual level and herewith gives new proof for Nichols' conviction that a motor, "kinesthetic basis for symbolism is not needed" (p. 834). The inversions of choice between sounds with diminutive and opposite function can be compared with the relations observed by Lévi-Strauss concerning American masks: "Like myths which are reversed in proceeding from one population to another, the plastic aspects of those masks which carry one and the same message are also reversed" (1975 II: 89; cf. on markedness reversals LW 1979 a and above pp. 194f.). The semantic difference observed by Margaret Langdon (1971) between tense (voiceless) and lax (voiced) laterals as "large" and "small" respectively in the sound symbolism of Ipai and other Yuman languages finds an adequate explanation in the greater force and duration of the tense consonants (see above, pp. 139f.). The question of the suitability of checked, noticeably shortened consonants (see above, p. 148) for diminutive symbolism has been rightly pointed out by Dell Hymes' private communication to Langdon (1. c. 172).

V. SPEECH SOUNDS IN MYTHOPOEIC USAGE

In comparison with the various forms of sound-symbolic ablaut briefly outlined in our survey, further, more radical devices which break the regular hierarchic scale in the relationship between sound and meaning may be elicited in "abnormal types of speech", according to the term of Sapir, who as early as 1915 devoted a revealing study to this complex of questions (reproduced in 1949: 179-196). He presented his data after five years of ethnological and linguistic research mainly among the Nootka Indians, and his intent was "to indicate the general class of linguistic phenomena (...) to render these latter less glaringly bizarre by providing them with parallels of a more general character" (p. 180). His remark that "consonantal play to express modalities of attitude is doubtless a fruitful field for investigation in American linguistics and should receive more attention than has hitherto been accorded it" (p. 186) still remains relevant.

Sapir's central theme is the Nootka custom of implying "in speech some physical characteristic of the person addressed or spoken of, partly by means of 'consonantal play' (...) [which] consists either in altering certain consonants of a word, in this case sibilants, to other consonants that are phonetically related to them, or in inserting meaningless consonants or consonant clusters in the body of the word." When speaking to or about a child, it is customary to add "the regular diminutive suffix *-is* to verb or other forms, even though the word so affected connotes nothing intrinsically diminutive (...). In talking to or about fat people or people of unusual size, the suffixed element *-aqʰ* is used in a manner analogous to the diminutive *-is*" (pp. 180f.): acute diffuse vowels and consonants serve to pinpoint the diminutive suffix, and grave compacts the augmentative one. The same diminutive suffix is used in addition to some consonantal modification of the words to characterize beings with visible blemishes. People who are abnormally small (e. g., dwarfs) are spoken of with (in addition to the suffix) a palatalization (sharpening) of all hissing and hushing sibilants.

An approximative analogue to this kind of word-building with a suffix and with a sound change could perhaps be seen in the German treatment of the diminutive suffix *-chen* which, as Leonard Bloomfield brought to light in 1930, also involves an unusual consonantal alternation. But German, in contradistinction to Nootka, manifests the alternation in the suffix itself. At the beginning to this diminutive suffix there appears a palatal continuant different from the corresponding

velar continuant occurring in the same sound sequence elsewhere: thus, only this sound difference discriminates two words: *Kuhchen* 'little cow' has a palatal continuant at the beginning of the diminutive suffix *-chen* added to the root *Kuh* 'cow', while *Kuchen* 'cake' has a velar continuant (see the previous discussion of this question summed up by O. Werner 1972: 48).

As Sapir points out, in Nootka those with some defect of the eye (the cross-eyed, those who squint, and those with some other defect of the eye, but not the blind) are spoken of or even addressed with the conversion of all sibilants into the corresponding voiceless laterals; thus "the diminutive *-is* itself becomes *-iʃ*". Talk about or even directed to hunchbacks transforms the ordinary sibilants by pronouncing them with a protrusion of the lower jaw. People with some deformity in their extremities are spoken about with a special, at least partly hushing sibilant used as an infix. The exact position of the infix within the word "apparently depends on the whim of the speaker", while for left-handed people and for circumcised males and for greedy, grasping, gluttonous people (i. e. long-handed or long-beaked beings), the infix is inserted after the first syllable of the word. In the last case (the only one listed with no literal distortion of the body involved) there is no diminutive suffix. The same substitutions of sibilants and sibilant infixes are used when alluding to such animals as the Deer, Mink, Raven, Sparrow, Wren, especially when they appear in mythological narratives, and similar kinds of "consonant plays as a device in mythology" are used in application to supernatural characters. Sapir quotes Boas' materials on the Mink of the Kwakiutl, "a trickster who regularly transforms all anterior palatals to corresponding sibilants" (p. 187). Frachtenberg's commentary (1920) on the Nootka study concludes that the cited forms of unusual speech "apply only to persons physically abnormal and to mythological beings or animals" (p. 296). It is worth mentioning that the mythological connections of the physical deviations, whether unwanted or wanted, do not include cases of total infirmities, such as blindness, deafness, lack of feet, etc.

Sapir's reference to "the well-known American habit of comparing one that is marked by some peculiarity of temper or habit with a favorite mythological character" (p. 192) and to "the clownish episodes of rituals which are so characteristic of America" is a suitable key for understanding the links between the similar consonantal plays applied to "myth character forms," as well as to animals either magical or traditionally associated with mythology; and to the abnormal, unusual per-

sions closely dependent upon and guarded by the upper forces. The peculiar sound plays noted above reveal an etiquette of significant, inseparable combinations made up of a satirizing and at the same time reverential attitude toward the supernatural world. People spoken of or to with the use of a deliberately strange sound-means are "set apart by nature as falling short in some respect of the normal type of individual", and are simultaneously "stamped as inferior" (p. 185) and as connected with the superior forces of nature. Sapir intuitively grasped that the opposite modalities of attitude expressed by consonantal changes and increments concurrently involve such various feelings as contempt, affection, and respect (p. 186).

Sapir also saw "that quite analogous processes are found employed as literary devices in American myths and songs". He points out that the phenomenon of consonantal and vocalic play is also well illustrated in Indian songs. Song diction is an extremely important, though rather neglected, field of primitive lore (...). Song texts often represent a mutilated form of the language, but study of the peculiarities of song forms generally shows that the normal forms of speech are modified according to stylistic conventions, which may vary for different types of songs. Sometimes sounds are found in songs which do not otherwise occur in the language. [149: 188]

Sapir refers to special song sounds such as certain sonorants - laterals and nasals - which under ordinary circumstances outside of songs are difficult for the Indians to articulate. On the basis of his comprehensive field work, George Herzog found that in the songs of the Pima (Arizona), voiceless vowels of ordinary speech become voiced, vowels are inserted, stops and affricates are frequently changed into the corresponding nasals, one of which, the palatal [ɲ], is "unique in poetry, being nonexistent in ordinary speech" (1946). (For the Peyote songs, cf. Nettl 1953, and for the insertion of initial prevocalic yod or [ɣ], widespread in Russian folk songs, see Bogatyrev 1962 and RJ IV: 533f.)

The use of wide consonantal shifts is, in some languages, for instance certain Sahapin dialects (south-central Washington), confined to the "rhetoric myth narration, distinguishing it from normal speech" (see Jacobs 1931). The highlighting of mythological characters through conventional sound shifts is particularly salient when it introduces speech sounds foreign to the usual pattern of the given language. According to Frachtenberg (p. 297), in the North-West American Quilcute language, words used when speaking of the mythological Deer replace all sibilants with laterals, and the pronouncements of the Ra-

ven's wife change [d] and [l] to [n], and [b] to [m]: "these abnormal forms are the only instances in Quilcute where the nasal *m*, *n* occur", for these two nasals are always represented by /b/ and /d/ respectively. Cf. an analogous mythological conversion of voiced stops to nasals in Puget Sound dialects (see above, p. 135).

Consonantal insertions or changes in the speech of (or about) mythical animals are observed in diverse Amerindian languages, e. g. in Tachelma by Sapir (1922: 8), and in Nez Perce and Coeur d'Alene by Aoki (1970: 7f.; 1975: 190). Particularly notable are Margaret Langdon's reflections on "animal talk in Cocopa" (1978), from which she is able to infer that "animal characters in Cocopa folklore and mythology have their own distinctive speech manner, each animal being associated with its own favorite consonant", and hence she raises the question of whether such consonantal modifications in the speech of, to, or about these sacred animals existed throughout the Yuman family of languages (p. 13).

VI. VERBAL TABOO

The far-reaching questions of the modification and truncation of word shapes caused by verbal taboo are in fact closely associated with the problems of the lexical alterations which American Indian languages undergo when used to speak to or about certain beings and forces. On the one hand, such transmutations camouflage the subject meant or addressed; on the other hand, these conventional contrivances, as compared to ordinary forms, highlight and in a certain way specify the character designated. As the noted specialist in Indo-European etymologies Joseph Vendryes (1875-1960) pinpointed, religiously motivated interdictions against certain nouns were

far from purging the vocabulary of the words judged to be evil. They could be preserved on the condition of being modified in their form, for instance reversed in their sound sequence, in order to become inoffensive [cf. Fénelon 1956: 239]. Herewith is explained a number of accidents in the structure of certain words, notably names of animals (especially wild animals undergoing a hunters' taboo), names of body parts or of physical blemishes, and finally religious terms designating ritual notions or acts. [1924: 383]

Wilhelm Havers (1879-1961) devoted a large part (pp. 117ff.) of his detailed monograph on verbal taboo to substitutive devices and especially to sound changes, the insertion of sounds or sound groups, meta-

thesis, alternation or deletion of initial, internal, or final sounds or clusters.

The distance between the tabooed word form and its substitute is one aspect of the relationship between the two sound shapes. As long as the link between the prohibited form and its replacement is sensed by the speakers, there are rules, or at least dispositions, against surpassing a certain phonic remoteness between the two shapes. Thus for instance, Czech utilizes several substitutes for the tabooed ecclesiastical terms *sakra* and *sakrament* (Latin *sacra* and *sacrament*), whereby the voiceless /s/ and /k/ are given solely voiceless substitutes, still sibilant for /s/ and still grave for the Czech velar /k/, and the sonorants /r/ and /m/ are replaced by the liquid /l/ and the 'semi-sonorant' /v/: *safra*, *cafra* (with an initial dental affricate), *sakva*, *saprmnt* (with a syllabic [l]), *cakrment*, *sakvament*, and *saklment*. Among the numerous American English exclamations collected by E. C. Hills (1924), there is a distinct tendency for stops replaced by stops to maintain their original laxness or tenseness and for sonorants to replace sonorants. Thus, *God* becomes *dod*, *dog*, *dig*; *Christ* appears as *crimp*, *cripes*; *damm* changes into *darrn*, *garrn*, *dinn*, *darrn*, *dang*, *deen*, *been*.

One may add that as long as speakers feel the link between the prohibited form and its substitute, the replacement of a tabooed word by its modified form is a conscious or subliminal expression of a fear of attracting danger, bad luck, or ill will through the direct, explicit evocation of a supernatural or ill-omened, ill-intentioned power or through the direct naming of a potential victim, prey, or target of such a power. Fr. Specht appraises word taboo as a characteristic manifestation of verbal magic (*Sprachzauber* 1940: 112ff.: 1944: 395), frequently combined with a playful touch (cf. Havers 1946: 127). Such "abnormal types" of speech-sound uses as the American Indian symbolic ablauts concern the speaker's potential addressee; they always have in mind a second person, either present and spoken to, or absent and spoken about. The abnormal sound changes in the word taboo have as their aim to hide the tabooed noun from its carrier or from the supposedly undesirable listener.

The "male and female forms of speech" in their turn assign to speech sounds a task quite different from a mere sense-discriminative one. In languages which differentiate the sound patterns used by females and males, women identify themselves as women by avoiding the forms of speech and the repertory of speech sounds proper to the men's pattern. In certain languages, analogous means of self-identi-

cation are used by males, but this phenomenon is less general; and there are languages, for instance Yana (North California), in which the specifically male pattern is confined to men dealing with men, whereas when either the addresser or the addressee is a woman, the female pattern is employed. The spread and character of sex discriminations in the languages of the world require a much more detailed and systematic study. Differences between the more ceremonial and the more reduced character of speech on its various levels have been pointed out in several descriptions, and attempts at a sociological explanation have been made, but in fact in some of these cases, such as Yana, the more reduced forms characterize the female (Sapir 1949: 211f.), while in some other languages they characterize the male variety of speech, as observed in Chukchee dialects (Bogoraz 1922: 665) or in Caraya (Ehremreich 1894: 23).

Also, the degrees of taboo interdictions against a recourse to the language of the other sex are uneven. In Yana "a female uses the male forms without hesitation when she quotes the words of a male speaking to a male, as in relating a myth in which one male character speaks to another" (Sapir 1949: 207). On the other hand, in the USSR, when schools with Chukchee as the language of teaching were first opened, "little girls blushed and refused to read words containing an *r*-sound", because "the use of men's pronunciation was accounted indecent for women, accustomed to replace *r* and *č* phonemes by the hushing *š*". At the same time, it is to be noted that the pronunciation of speech sounds usually confined to the male pattern is, here again, familiar to females and is used when they quote male speech, especially in relating men's tales (see Bogoraz 1922: 665, and I. Diakonoff's convincing comparison of two Sumnerian dialects, the men's and women's: 1974: 113).

From the scattered data we have at our disposal, it is difficult to extract common principles of sound differentiation in the sexually bifurcated languages known to us. A number of these bifurcations in some way involve sonorants and affricates. For instance, one may cite the female's replacement of final stops by nasals which Boas observed in some Eskimo tribes (1911: 79), the substitution of a sibilant affricate for liquids in the female Chukchee (Bouda 1953: 33) and Koryak (Stebnickij 1934: 58), the supplanting of all /s/ and of the palatalized /r/ by /od/ in the speech of Russian women in Northeast Siberia (Bogoraz 1901: 5ff.), and the loss of velarization by the women's /l/ in scattered Russian and Ukrainian dialects (Šerech 1952). Among the Gros Yen-

tres in Montana women's velar stops correspond to men's sibilant affricates, as Regina Flannery noted (1946).

A peculiar sound feature distinguishing men's and women's speech has been observed in Gogo-Yimidir (Australia). Here the language has no sense-discriminative opposition of tense and lax (or of voiceless and voiced) stops, but women use a tense (concomitantly voiceless) variant, whereas men correspondingly employ the lax (concomitantly voiced) variant (de Zwaan 1969: 26f.). This situation is similar to the female variety of Yana with its devoiced and reduced final vowel of polysyllabic forms and a tense antecedent stop, e.g. male: [siga:gal, fe-male: [siga:k^haj] 'quail' (Sapir 1949: 208; Sapir and Swadesh 1960: 3). A significant instance of a direct connection between taboo and a female sound pattern was pointed out by Dmitrij Zelenin (1878-1954) in his fundamental treatise on verbal taboo (1929-30: 142): Kazakh women were prohibited from calling their in-laws by their true names and either had to use words which resemble the original in sound shape or had to modify directly the phonic makeup of the interdicted name. In various ways both the verbal taboo and the sexual bifurcation of language display certain changes in distance - either estrangement or rapprochement - between the sayer and the real or imaginary sayee.

VII. GLOSSOLALIA

One use of speech sounds totally deprived of a sense-discriminative role throughout an entire pronouncement, but nonetheless destined for a certain kind of communication and aimed at an actual human audience or intended to be received and apprehended by a divine spirit, pertains to a special kind of verbal or quasi-verbal creative activity labeled *glossolalia*. The coalescence of two functions is a characteristic trait of glossolalic pronouncements: they connect the human and divine worlds on the one hand as prayers from the former to the latter and on the other hand as messages transmitted from the divine power to the assembled human body in order to inspire, unify, and emotionally exalt it (cf. Samarin 1972b). Different forms of glossolalia are widely spread in various countries, epochs, and beliefs (cf. May's 1956 survey of glossolalia in non-Christian religions, also Jaquith 1967; and with a special concentration on Christian glossolalia, Lombard 1910, Cutten 1927, and Samarin 1972a & b). Its lack of resemblance to any actual language of the present or of the past leads to glossolalia's des-

ignation as a language of spirits. The chapter 2 passage of the Acts of the Apostles on the Pentecost miracle, which gave believers the "gift of tongues" for a direct verbal communion with heaven ("and they were all filled with the Holy Ghost, and began to speak with other tongues, as the Spirit gave them utterance"), provides the background for the multiform rise and reappearance of a "speaking in tongues"; glossolalic movement.

Only a few of the diverse glossolalic pronouncements within the different varieties of Pentecostal trends are available in written or taped records for an analysis of their form, although such an analysis promises to yield significant results. William Samarin, the devoted examiner of Christian glossolalia, surmises with confidence that "glossas from different parts of the world will have striking similarities, perhaps even more similarities among themselves than each does to its source language" (1972a: 77).

Suggestive data may be derived from the Khlysty, apparently the oldest Russian mystical sect, with a firm glossolalic tradition (cf. especially Konovarov 1908: 227-252: "Peculiarities in the pronunciation and combination of sounds, words, and sentences of ecstatic speech"). Archives of a special Moscow Committee which investigated sectarian activities throughout the middle of the eighteenth century preserved examples of glossolalia recorded from three Khlysty prophets (see Nečaev 1889: 179; cf. RJ IV: 641f.). They considered whirling to be a second, supreme baptism, because the Holy Ghost descends on the whirling people (see Nečaev: 140).

The St. Petersburg preceptor of the Khlysty, Ivan Čurkin, taught a woman who worked for him to say, while whirling: *Kindra fendra kira-veca*. It is easy to observe the rigorous selectiveness and recurrence of the sounds used. All four odd syllables of this sequence contain an unrounded front vowel, while the vowel of all four even syllables is an apparently unstressed *a*. All three internal *a*'s of this formula, which build the second syllable of its three members, are introduced by *r*, and the first two *ra*'s are preceded by one and the same cluster, *nd*. Of the four odd front vowels, the first and third are *i*'s with an antecedent *k*, while the second and fourth are *e*'s with a preceding labial continuant: first *je*, then *ve*. *Rentre jente*, the first two "words" of an invocation written down in 1747 from a Moscow prophet of the Khlysty, the trader Sergej Osipov, correspond to the *kindra fendra* of Čurkin's text in the number of syllables (2+2), the similar clusters, and the identical consonants, differing only by the voicelessness of the dental stop and

the lack of *k*. In the glossolalia of a monk from the Moscow Ćudov monastery, Varlaam Šiškovič, interrogated and tortured in 1748, several analogues appear; in particular, the exclamation *natrujfuntru*, translated by this esoteric preacher as 'be fearful, man, before praying', coincides entirely with the consonantal makeup of Osipov's quoted passage. The sectarians' designation for the gift of tongues – *govorenje inostrannyimi jazykami* 'speaking in foreign languages' – finds justification in the use of such prevalently alien traits as the consonant *f* and the clusters of *ndr* or *ntr* by all three performers. Of the three words of Ćurkin's precept, one begins with *f* and two finish with *ndra*. In Osipov's 18-syllable pronouncement, the *f*, repeated four times, is the only continuant obstruent, and the cluster *ntr* occurs four times, as does *nr*. Šiškovič's 94 syllables contain ten *f*'s, seven *ntr* and *ndr* clusters, and four *nr*'s. Šiškovič, ordered to translate his glossolalia into Russian, made a "translation" based consistently on similar sound-associations (*nasontos* – *srna*, *lesontos* – *vozlej*, *furtlis* – *vrzumnis**, etc.), but devoid of any *nr* or *nd* combinations and of any etymological *f*.

A capable and eccentric peasant, a skilled craftsman and alleged sectarian, once lived in the village of Zaxarovka, Belėv district, Tula province. There RJ, invited by a schoolfriend, Vladimir Žebrovskij, met him. In early 1914, Vladimir's sister O'ga, looking for the craftsman, entered his hut and saw him sitting on the floor, intently stroking a cat on its back. She asked, "What are you doing?" and was told, "Kjindru po fendre glazju" ("I'm stroking the *kjindra* along the *fendra*"). RJ (see his IV: 641 f.), who at that time was studying the Khlivsky's glossolalia, had Ćurkin's invocation still fresh in his memory and asked O'ga to question the man as to what a *kiraveca* was. "Kiraveca is an old word, a wise word," was his reply. "And what does it mean?" – "Well, don't you know the proverb? Women's hair is long and reason short. Thus, it is beyond your reason [*Ne tvoego uma*]!" Similarly, the whirling prophets used to state, according to Nečaev's survey, that they spoke 'beyond their own reason' (*ne ot svoego uma*).

The 'strange tongue' (*strannyj jazyk*) of the ecstatic prophecies revealed not only salient, tangible uniformities, but also curious similarities with the abstruse vocables of children's 'game preludes' and of charms, in particular the same penchant for unusual phonemes like *f* and clusters such as *n + l* or *d*, alone or followed by *r*. We can also compare the Khlivsky texts of the eighteenth century with the American Pentecostal glossolalia of our time. In the prayer of a Presbyterian minister which consists of 28 "sentences" or "breath-groups" (Samarin

1972a: 77 f.), we observe 40 *ndr* and 30 *ntr* clusters, plus 11 *nd* and *nr*; it begins with the sentence or breath-group *kupoy šandre file sundrakuma šandre lása hoya táki*, and is built up of similar groups. Two brief samples of neo-Pentecostal glossolalic discourse, one of 43 and the other of 38 seconds (Samarin 1972b: 129), comprise 15 *nd* combinations each. Both of F. Goodman's (1969) short examples of glossolalic texts abound with *nd* and *nr* phonations (cf. also Samarin 1972a: 115 f.). This international inclination toward combinations of *n* with *d* or *r*, which perhaps can be interpreted as prenasalized stops (cf. Ladefoged 1971a: 33 f., and Trubetzkoy, 1939a/1969: 169), is astonishing indeed.

Before allowing some generalized inferences, such examples of cross-cultural correspondences in glossolalic, one might add "supra-conscious", verbal art, demand a comprehensive international and interdenominational collection of records of glossolalia in the widest sense of this Greek term. Here again, one must remember the simultaneously reassuring and warning legacy of Boas about the frequency and relative inconsistency of similar properties in different languages (cf. above, p. 206). The dependence of glossolalic texts on the sound pattern of the emitter's native language as well as on individual variations in the makeup and distribution of repetitive sound groups concurs with the common ubiquitous principles of structuring a half-improvised and half-traditional esoteric composition of quasi-words.

The same conjunction of convergent and divergent factors may be, perhaps with a stronger emphasis on tradition than on improvisation, observed in the widespread subclass of incantations composed of non-sensical words designed to keep the inscrutable mythical beings to whom the message is addressed at a distance from the addresser and to safeguard the latter. We may cite an example of a magical Russian formula filled with cryptic, imaginary words and chanted for protection against mermaids (RJ IV: 639 f.):

<i>Au Au</i>	<i>šixArđA kAwdA</i>
<i>švđA vnoZA</i>	<i>mitA minogAm</i>
<i>kAlAndi indI</i>	<i>šAkArđšmA biđAš</i>
<i>okutomi mi</i>	<i>nuffAn zidimA</i>

This charm displays a tenacity with its 18 *A*'s (here capitalized) and its twice or thrice hypnotically reiterated sound sequences (here italicized), and again we come across the same cluster: *kalandi indI*.

The awakening and growth of interest in subliminal impulses and products of verbal creativity were manifest in the scientific – especially

linguistic, psychological, medical - and literary worlds toward the end of the last century. Individual cases of glossolalia of entranced persons also attracted international attention. In a French Swiss case of somnambulism with glossolalia, a young Genevan lady, Catherine-Élise Muller (known in the international scholarly literature under the pseudonym Hélène Smith), believed that in her trances she communicated in one language with Martians and in another with people of ancient India. She was carefully observed by psychologists, in particular by the popular Geneva professor Théodore Flournoy (1854-1920), who devoted to her case two monographs (1900, 1902), which evoked lively interest within the international intellectual milieu.

Flournoy's Genevan colleague, Ferdinand de Saussure, grew interested in the analysis of her supposedly Sanskrit discourses, examined the records he received, and after transcribing her frenzied utterances, wrote down his detailed remarks. They were reproduced by Flournoy (1900) and were succeeded by a circumstantial critical account on Mille Muller/Smith's glossolalia by the Paris linguist Victor Henry, whose book *Antinomies linguistiques* (1896) inspired, to note *à propos*, some concepts of the Saussurian *Cours*. The conclusions of both linguists remained surprisingly indecisive. In spite of the evidence that in her rational life the somnambulist knew no Sanskrit and was neither an impostor nor a publicity-seeker, amidst a "mêl-mêlo of syllables" Saussure detected a few incontestable traces of Sanskrit, and among the unintelligible syllables he found no elements "en opposition avec la figure générale des mots sanskrits" (Flournoy 1900: 303; cf. Lepeschy 1974; and Todorov 1977: 323-338). No matter what the results of the joint work of linguists and psychologists were in this case, it should be seen as a stimulus for further interdisciplinary steps, and in particular for a bilateral structural analysis of glossolalia also in its individual, delirious manifestations.

VIII. SOUND AS THE BASIS OF VERSE

We have touched upon several types of verbal manifestations in which speech sounds have an immediate relation to meaning or where they function as direct carriers of a latent, concealed imaginary meaning, but notwithstanding their frequency, all the phenomena surveyed are optional in space and time. There is, however, one kind of verbal activity which is omnipresent and necessarily characterized by the

greater or lesser self-determination of speech sounds. This is 'poetic language'. In its nuclear meaning, this term is applied to the verse-form of language, and this statement must not lead, as sometimes happens, to misunderstandings. It does not mean that the role of poetry is conceived of as reduced to the sound-form or that the meaning loses its import. Rather, the notion of verse implies the indispensable presence of a certain specific, *ad hoc* organization of the verbal sound matter. Against the generality of this principle one may cite diverse ways of damping or deleting certain metrical conventions in different forms of 'free verse'. However, on the one hand, any vers libre in order to be sensed as verse must, despite its relative freedom, display certain formal constants, or at least nearly constant tendencies, especially in the prosodic organization of syntactic groups and their intonations. On the other hand, free verse is an attenuated form of verse, a compromise between poetic and ordinary language, and presupposes the copresence of stricter verse forms in any given speech community.

The essential fact is the universal coexistence of two poles of language: verse and ordinary prose. The essential mark of the former pole, namely incontrovertible evidence that in verse "equivalence is promoted to the constitutive device of the sequence" (see RJ 1960: 358), has been sufficiently discussed for years and does not need a long exposition: if a syllable is treated as a pertinent constituent of a verse-line, then one syllable is equated with any other syllable of the same sequence, whereas speakers do not measure the number of syllables in their ordinary speech. In a similar way, in certain verse-systems word-stress is assumed to equal word-stress, as unstress equals unstress, and word-stress becomes herewith a spontaneous unit of measure. Likewise, a metrical grading of stresses creates an equality within each grade and a scale of gradation between the different subunits. Correspondingly, prosodic long is matched with long, and short with short, word boundary equals word boundary, absence of boundary equals absence of boundary. Syntactic pause equals syntactic pause, absence of pause equals absence of pause. Briefly, the verse pattern makes a choice of prosodic elements utilized by the meter and following such a choice, syllables are converted into units of measure, as are stresses and 'morae' (the minimal quantitative units in a language with an opposition of longs and shorts).

All the elements of verse, whether obligatory, or optional, or finally autonomous in a given system, demand an exact linguistic analysis with respect to the sound system of the given language. Sound corre-

spendences become evaluated with regard to the closeness or remoteness of meaning between the morphemes and higher entities to which these sounds belong. Rhyme and alliteration, as well as metrical parallelism, offer manifold examples. Multiform wordplays by themselves are a striking manifestation of the poetic function even outside of poetry. But, notwithstanding varied proofs of speakers' and listeners' thorough attention to speech sounds, the pattern of ordinary language refrains from the promotion of their equivalence to the constitutive device of the sequence.

IX. CHILDREN'S VERBAL ART

The universal existence of poetry and demand for poetry find a powerful corroboration in studies of children's language. In his renowned book *From Two to Five*, the Russian writer Kornej Čukovskij (1882-1969), one of the most experienced specialists in child language, conclusively defended the thesis of the infant's parallel acquisition of language and penetration into poetic rudiments and claimed that "any rhyme gives a child particular joy" and that "rhyme-making at two years of age is a regular stage of our linguistic development. Those children who don't go through such linguistic exercises are abnormal or sick" (pp. 293, 301). Children either string rhyming words together - *banija-Manija* 'bathroom-Mary' - or invent words to rhyme with existing ones - for instance, *gygán* 'gypsy' obtains an invented rhyme-fellow *mygán* - or they constantly chain a set of rhyming nonsense vocables together, like the two-year-old girl observed daily by Čukovskij (p. 301) -

Kunda, munda, karamunda,
Dunda, bunda, paramun -

with six instances of the same *nd* clusters we noted in glossolalia (see above, pp. 215f).

Anna Kern, who was a friend of Puškin, recollects in her memoirs how a seven-year-old boy invented and, in the poet's presence, recited the following couplet -

Indijanda, Indijanda, Indija!
Indijadi, Indijadi, Indija! -

and how Puškin kissed the child and surnamed him "Romanticist." Those two verses again display eight *nd* clusters, common also in such

meaningless trochaic lines as those which children sing dancing in a ring:

Èndendine, betetón!
Èndendine, betetón!
(Čukovskij: p. 308).

As Mary Sanches and Barbara Kirschenblatt-Gimblett point out in their perspicacious study "Children's Traditional Speech Play and Child Language" (1976), it has been "found that for young children and feeble-minded persons, as contrasted to normal adults, the conditioned responses tended to generalize to words whose similarity to the original stimulus word was determined by features of *sound* rather than by grammatical and semantic features (...). That children enjoy playing with sound for its own sake has long been recognized as a prominent feature of child speech" (p. 78). A typical instance quoted in the same study is a skillful tongue twister in which eleven otherwise similar monosyllables alternate their prevocalic velar stop with a dental one and their final velar with a labial:

A skunk sat on a stump.
The stump said, "the skunk stunk."
The skunk said, "the stump stunk."
Which one stunk, the stump or the skunk?

Among the numerous examples of "the child's play with sound" brought by Ruth Hirsch Weir (1926-1966) in her superb monograph (1962), she cites a paragraph from the half-dream soliloquy of her two-year-old son, with a symmetrical distribution of labials and velars:

Like a piggy bank k p g b ŋ k
Like a piggy bank k p g b ŋ k
Had a pink sheet on p ŋ k
The grey pig out. g p g

(The end of this paragraph reminds us of the 'counting-out' formula.) Particularly clear-cut in their construction are jocular concatenations of words, alternating their distinctive features one after the other, such as in an example of Czech children's play quoted by Ohnesorg (1966): "*Dipa - kipa - ita - bada - dabu - mábu.*" The directive role of sounds, their alliterations and assonances in children's argumentation is beautifully exemplified by H. Wallon (1945: 57):

"La poudre c'est de la poudre."
 "Où roule-t-il le soleil? Dans le ciel." [soleil - sjel]
 "Comment est fait le ciel? C'est du feu."
 "Comment peut-il rouler dans le feu?"
 "Enfer... le soleil est en feu."

The specific kind of children's folklore widespread in the world and known as 'counting-out rhymes', French *comptines*, Russian *scitalki*, Polish *wyliczanki*, offers in various languages striking examples of the pronunciation which French students term *glossolalie ludique*. These are ritualized 'game preludes', casting lots for the participants of a game or deciding who will be "it." These 'ludic' performances combine a predilection for strange and alien vocables (cf. Pisarkowa 1975) and the magical intent of incantations with a playful attitude (cf. Bolton 1888; Ferdière 1947; Baucomont et alii 1961; Gump 1965; as well as G. Vinogradov's astute approach to the miniature play-myths of Russian folk children's counting-out formulas [1930]). From a book of wide and unexpected outlooks - *Speech Play* (1976) - we draw Sanches & Kirschenblatt-Gimblett's example of what they term "gibberish", where "only the phonological rules are observed: the phonological sequences neither form units which have grammatical function nor lexemes with semantic reference" (pp. 92f.):

Inty, ninty tibbetv fig
 Deema dina doma nig
 Howehy powehy domi nowday
 Hom tom tout
 Olligo bolligo'boo
 Out goes you.

One could say that the avoidance of a rational lexis and grammar permits, nevertheless, a rigorous structuration of the whole sextet with its initial three lines of four downbeats per line and subsequent three lines of three downbeats each; the middle line of the latter tercet opposes two disyllabic intervals to the zero intervals of the marginal lines. Only the first and last pairs of lines rhyme, and each line except the final, the only meaningful one, is interwoven by similar and contrastive vowels and consonants.

Child poetry is, without doubt, an imposing creative tradition, and Sanches & Kirschenblatt-Gimblett thoroughly understood its significant difference "from adult verbal art". They noted certain peculiar features in the productions of young children, particularly "the relatively greater importance of phonological structure" and a "greater in-

vidence of nonsense"; but the insistence on alleged "striking irregularities" and on a child's supposed inability "to conceptualize the whole form at once" still prevents the detached adult from estimating at its true worth the organization of a totality such as the magnificent jump-ropes cited by Sanches & Kirschenblatt-Gimblett from Roger D. Abrahams' collection (1969: 23), in turn taken over from Norman Douglas' *London Street Games* of 1916. Jump-rope rhymes are, as Abrahams points out, connected both with counting-out and with divination (IX):

¹Caroline Pink, she fell down the sink,
²She caught the Scarlet Fever,
³Her husband had to leave her,
⁴She called in Doctor Blue,
⁵And he caught it too -
⁶Caroline Pink from China Town.

This six-line spell against a miss in jump-rope, dramatized as the story of an unlucky jump, is firmly integrated. It is built of two couplets, each with plain rhymes, one feminine (*Fever - leave her*), the other masculine (*Blue - too*). These couplets are embraced by the two marginal lines, the first and the sixth, which are mutually connected by the rhyme *down - Town*, and by the repetition of the heroine's double name. The first line is tied together by the inner rhyme *Pink - sink*. The role of ternary correspondences is striking and they may be associated with the "triple-skip" of the game (cf. Abrahams: § 15). The triple vowels of ¹*Caroline*, ²*caught* and *Scarlet* reappear in reversed order (mirror symmetry) at the end of the poem - ⁴*called*, ⁵*caught*, ⁶*Caroline*. The pronoun *she* is repeated thrice. A triple alliteration binds the first two lines with the last - ¹*fell* - ²*Fever* - ⁶*from* - and ties together the third line - *sher husband had*. The sixth line is bound by three diphthongs followed by [ɲ]: *Caroline* [ayɲ] - *China* [ayɲ] - *Town* [awɲ]. The name *Caroline* is associated with *Scarlet* by a bright paronomasia; and three different binomials are semantically linked by color associations: *Pink - Scarlet* - *Blue*. These three colors as well as the three vowels of their designations form a triangle: the light *Pink* with its [ɲ], the chromatic *Scarlet* with its chromatic (compact) [aj] (cf. above, p. 197), and the dark *Blue* with its [u]. Thus, the wordplay with colors proves to permeate the whole piece and the *Pink* of the beginning returns in the *Pink* of the end.

X. SAUSSURE'S *POÉTIQUE PHONISANTE* SEEN FROM TODAY

It is difficult to find in history a cultural epoch of as numerous and patent contradictions, not only within a society but also within any single thinker typical of that time, as the decades bordering the last and the present centuries. The question of antinomies was a favorite topic of authoritative representatives of the epoch such as Ferdinand de Saussure, but even this great linguist's treatment of these internal contradictions remained inherently discordant. One of the general principles of his *Cours* - "caractère linéaire du signifiant" - is at variance with the only work of the same period which he planned and prepared for publication, namely his voluminous inquiry into the paratexts of Latin, Greek, and Vedic poetry. These writings are imprecisely called *Anagrammes*, although the work was to cover a much wider complex of problems. Besides being linearly employed as sense-discriminating elements in the service of higher, grammatical units, speech sounds are invested with their own, plenipotentiary task as verse components. For instance, a vowel in Saturnian verse demands the copresence of an equivalent in some other place within the verse. There is in turn a corresponding and no less strict law for the consonants. All of these constituents are exactly coupled, reiterated in even numbers; hence Saussure adduced his slogan: NUMERO DEUS PARI GAUDET (see Starobinski 1971: 21-23, 33). He underlined that this principle is not confined "to a juxtaposition in a sequence but may act irrespective of any linear order" (p. 47).

A further factor reducing the principle of linearity was Saussure's discovery, recorded by him in a letter of 14 July 1906 - "J'ai pu vous annoncer que je tiens maintenant la victoire sur toute la ligne" (see Starobinski: p. 20) - and acclaimed by Antoine Meillet's declaration "qu'on aura peine à nier la doctrine en son ensemble" (Starobinski: p. 158): most of the ancient poems analyzed by Saussure seemed to reveal to him manifold anagrams alluding to the names of people involved in the plots of these poems; thus these sounds functioned simultaneously in the text proper and in the paratext, and thereby endowed the latter with "une seconde façon d'être, factice, ajoutée pour ainsi dire à l'original du mot" (quoted by Starobinski: p. 31). If Saussure's manuscripts of this massive work had not been spurned for many decades as supposedly "futile digressions", the international struggle for a science of poetics would have received beneficial incentives (cf. Benveniste 1964: 109-114).

Such pages in the creative biography of the Geneva teacher as his concentrated interest in somnambulist glossolalia and his profound passion for the analysis of verse and for poetic anagrams are among the many proofs of his personal and scientific complexity and one of the telling signals which presaged the powerful expansion of vital themes and multiform standpoints facing linguistics now and in the future.

Poetic language has forcefully entered into the field of linguistic research, and notwithstanding the objections, as multiple as they are vapid, of some literary critics shockingly unfamiliar with the new vistas and even with the primary principles of the science of language, linguists are assessing more and more systematically the manifold and intertwined problems of poetic sound shape and grammar, as well as of tropes, figures, and composition. Since both aspects of language, the ordinary and the poetic, are two copresent and coacting universals familiar to the human being from his first linguistic steps, one could with equal right and equal one-sidedness speak about poetry and its 'ungrammaticality' or on the contrary assail ordinary language for its casual, crude, and retrograde grammatical organization and character.

Poetry, whether written or oral, whether the production of experienced professionals or of children, and whether oriented toward or against ordinary language, displays its own peculiar sound shape and grammatical structuration. In particular, the passive prosaic submission of sounds to superposed, grammatical units can never exhaust the task of a poetic work, notwithstanding its epoch, literary school, and the temporarily ruling slogans. The sounds of poetry indispensably carry a distinctly more autonomous task, and their bonds with poetic semantics are not reducible to the ordinary role required from them within these conventional units by the humdrum use of language. In poetry speech sounds spontaneously and immediately display their proper semantic function.

XI. INFERENCES FROM A CUMMINGS POEM

E. E. Cummings' (1894-1962) work has provoked reproaches for being "a kind of baby-talk" and occasioned hostile or perplexed questions, which are ironically echoed in Irene R. Fairley's studies on this poet (1968: 105; 1975: 1): "How is it that he includes so much grammatical irregularity without losing the reader? How can we explain the

ungrammatically we find in his poems?" He himself said about his poems: "Everywhere tints childrening, innocent, spontaneous, true" (*Complete Poems*: p. 462). An attentive parsing of one of the fifty texts issued in 1950 (see 1972: 530) demonstrates the poet's "ineluctable pre-occupation with The Verb" (p. 223):

- I
 1 love is more thicker than forget
 2 more thinner than recall
 3 more seldom than a wave is wet
 4 more frequent than to fail
- II
 1 it is most mad and moonly
 2 and less it shall unbe
 3 than all the sea which only
 4 is deeper than the sea
- III
 1 love is less always than to win
 2 less never than alive
 3 less bigger than the least begin
 4 less littler than forgive
- IV
 1 it is most sane and sunly
 2 and more it cannot die
 3 than all the sky which only
 4 is higher than the sky

This iambic poem is divided into four stanzas, each of which builds a clear-cut syntactic whole. The beginning of each stanza is signaled by *is* on the first downbeat, preceded either by the subject *love*, which opens the first and third stanzas, or by the anaphoric *it* at the beginning of the second and fourth stanzas.

Each of the four stanzas is divided into four lines. The two odd lines of each quatrain display a closer metrical correspondence with each other than with the even lines; the latter are more similar to each other than to the odd lines. Correspondingly, the lines of each quatrain are connected by alternate rhymes.

All lines of the odd quatrains end with consonants, while all lines of the even quatrains end with vowels. In contrast to the consonantal closes of the preceding, odd quatrains, the vocalic closes indicate the more conclusive character of the even quatrains.

In every odd quatrain the odd lines and in every even quatrain the even lines are bound with each other by regular rhymes (I *1, forget - 3 wet*, III *1, win - 3 begin*, II *2 unbe - 4 sea*, IV *2 die - 4 sky*), whereas the even lines of the odd quatrains, as well as the odd lines of the even quat-

rain, make use of semi-rhymes which confine the correspondence in terminal sounds to those which follow after the accented vowel (I *2 recall - 4 fail*, III *2 alive - 4 forgive*, II *1 moonly - 3 only*, IV *1 sunly - 3 only*). This distribution shows a certain correspondence between the opposition odd ~ even in lines and in quatrains.

All the odd lines contain a larger number of syllables than the even lines. All even lines of the poem are trimeters with masculine endings and thus consist of six syllables. The odd lines of the odd quatrains are tetrameters with masculine endings and thus contain eight syllables each. The odd lines of the even quatrains are trimeters with feminine endings and thus are composed of seven syllables. Hence, the odd lines of the odd quatrains are the only tetrameters of the poem and the odd lines of the even quatrains are the only feminine ones. The shorter length of the even lines contributes to their conclusive character as compared to the preceding odd lines. The four odd lines of the even quatrains have the only feminine closes and all four are bound by the same semi-rhyme *-nly*.

The phrasing of the lines exhibits an equivalent structure in both odd quatrains, and differs from that of the even quatrains, which in turn are similar to each other. The place of the break falls regularly after an upbeat in the odd quatrains (after I *1 thicker, 2 thinner, 3 seldom, 4 frequent*; III *1 always, 2 never, 3 bigger, 4 littler*), but the even quatrains have their break after the downbeat in the first three lines and after the upbeat only in the final line (II *1 mad, 2 less, 3 sea*; IV *1 same, 2 more, 3 sky*; but II *4 deeper*, IV *4 higher*). This difference highlights the final line of the even quatrains and in this way furthers the division of the poem into two octets, each opened by the noun *love*, the only substantive devoid of article in the poem. Moreover, as a result of this particular phrasing of the final lines in the even quatrains, these lines share their rhythmic profile with the end lines of the odd quatrains: I *4 more frequent / than to fail*, II *4 is deeper / than the sea*; III *4 less littler / than forgive*, IV *4 is higher / than the sky*.

The whole poem reveals a severe selective simplification in the network of grammatical categories and a striking originality in their syntactic exploitation. Only nine "formal" ("grammatical") verbs - all of them finite - occur in the poem: the copula *is* once in each couplet, with the exception of the sixth, and one modal verb in the second line of each even quatrain - II *2 it shall unbe* - IV *2 it cannot die*. The infinitives of the "lexical" verbs appear only at the end of the line: once in each even quatrain and three times in each of the odd ones.

The poem contains eight nouns, two in each quatrain, but in the odd quatrains they are divided between all four odd lines (I ¹*love*, ^{3a}*wave*; III ¹*love*, ³*the least*), whereas in the even quatrains each line of the even couplets is endowed with one twice-repeated noun, each accompanied in both quatrains by accessory words (II ³*all the sea which*, ⁴*the sea*; IV ³*all the sky which*, ⁴*the sky*).

The limit between adjectives and adverbs is obliterated. Lexical adjectives never appear in the poem as attributes. All of them are predicatives and function as adjectives or adverbial terms of grading: either superlatives (II ¹*it is most mad and moonly*; IV ¹*it is most sane and surely*) or comparatives, the latter in twelve "than-constructions" (cf. Strang 1968: 134f.). These constructions cover all the lines of the poem except the two mentioned lines with the four analytic superlative forms. The only case of a *than* followed by a clause – I ³*more seldom than a wave is wet* – presents us with the sole adjective in the so-called "positive degree of comparison". *Than* occurs four times in the four lines of each odd quatrain, and two *than*'s appear in the even couplets of the even quatrains.

Cummings' poem shares its dominant theme with Edward Sapir's monograph *Grading*, which, like the poem, was composed in the late 1930s. As the latter of these two experts in the mysteries of verbal work and art contended at the beginning of his "Study in Semantics": "Judgments 'more than' and 'less than' may be said to be based on perceptions of envelopment" (1949: 122). The grading gamut deployed along the poem is at the same time subtly intricate and diaphanous. The text begins with a chain of four comparative *more*'s (I₁₋₄) and a superlative *most* (II₁) and at the end returns to the sequence of *most* and *more* in the opposite order (IV_{1, 2}); a set of five *less*'s comes between these two *most*'s, and each *less* takes care of two adjectives.

An elaborate system of mirror symmetry underlies the relation between the two odd quatrains. The eight *than*-constructions offer four comparatives with *more* in the first quatrain and, correspondingly, four with *less* in the third one. The initial two comparatives of the first quatrain and the last two of the third one blend analytic and inflectional forms of comparison; moreover they have a spatial denotation (I ¹*more thicker*, ²*more thinner*, etc.). The final two comparatives of the first quatrain and the initial two of the third offer purely analytic comparatives with a temporal denotation (three of which are adverbs: I ³*more seldom*, III ¹*less always*, etc.). All four of the spatial comparatives have their root vowel /i/ in common, and moreover, the first two

have a common initial /θ/. By virtue of the above-mentioned blend, the two polar couplets of the odd quatrains are whimsically underscored: I ¹*more thicker than forget*, ²*more thinner than recall* and III ³*less bigger than the least begin*, ⁴*less littler than forgive*. The etymological figure *less littler* is confronted with the substantivized superlative *least* and with the colorful paronomasia *bigger – begin*, which is akin to children's folklore (see above, pp. 221ff.) and supported by the sequence /gl/ of *forgive*. Also, both quatrains help to build a mirror symmetry in their hemistichs. Thus, I ¹*forget* and III ⁴*forgive* correspond to each other both in sound ([f..gl] and meaning (*forget and forgive*), and the initial couplet of the first quatrain and the final couplet of the third end with disyllabic verb forms (I ¹*forget*, ²*recall*; III ³*begin*, ⁴*forgive*). The final line of the first couplet and the initial line of the third end with monosyllabic infinitives introduced by *to*, and I₃ and III₂ are the only lines in these quatrains with a nonverbal ending (*wet – alive*). The antonymy I ⁴*to fail* – III ¹*to win* strengthens the mirror symmetry between the two odd quatrains.

The *than*-constructions in the even quatrains, two in each, differ from those of the odd quatrains: each of the even quatrains includes a pair of *than*-constructions in which the second is subordinated to the first. Unlike those in the odd quatrains, these subordinating constructions contain neither an adjective nor an adverb superposed to the *less* of the second quatrain or to the *more* of the fourth: II ²*and less it shall unbe* ³*than all the sea* or IV ²*and more it cannot die* ³*than all the sky*. Conversely, the final subordinated *than*-construction of each of the even quatrains makes use of inflectional comparatives and, in contrast, distinction to those in the odd quatrains, does not resort to the *less* or *more*: II ⁴*is deeper than the sea* and IV ⁴*is higher than the sky*.

Each of the even quatrains is endowed with a sequence of a temporal and a spatial *than*-construction. The three concluding lines of the second quatrain (II₂₋₄) suggest that the extinction of love is a less imaginable event than the disappearance of *all the sea* which excels any sea in depth, and four words with identical vowels underscore the imagery: II ²*unbe* – ³*sea* – ⁴*deeper* – ⁴*sea*. The three-line finale of the poem varies and reinforces the same motif: the death of love is more inconceivable than that of the firmament which surpasses the height of the skies; here four identical diphthongs underscore the imagery: IV ²*die* – ³*sky* – ⁴*higher* – ⁴*sky*.

A pivotal task in the structuration of the poem is achieved by sound figures which permeate and embrace the whole. Among word-initial

consonants, two sonorants - /m/ and /l/, each occurring nine times - play the leading alliterative role in the poem. The nasal /m/ is centered around the upward terms *more* and *most*; the liquid /l/ is centered around the downward terms *less* and *least* and moreover heads the principal noun of the whole work, *love*, which out of all the nouns of the poem is the only one to appear as the first syllable of verse lines. Except in the first line of the poem (*love is more thicker*), the initial /m/ and /l/ never belong to the same line and the alliterative /l/ is confined to the span between the two only occurrences of the superlative *most* (II₁ and IV₁ *it is most*): II₂ *less*, III₁ *love - less*, 2*less*, 3*less - least*, 4*less littler*. As to the *m*-alliterations in the poem, the fourfold *more* of the whole first quatrain is crowned in the fifth line by the superlative *most mad and moonly* and supported by another labial triplet, I₁ *forget - a/frequent - a/fail*. At the threshold of the final quatrain the chain of alliterative liquids is stopped by the couple IV₁ *most - 2more* which in inverse order repeats the sequences I₄ *more - II₁ most*.

The triplet of successive alliterative /m/'s proves to be favored by Cummings, and a sentence of eleven syllables which opens another of his poems - *i met a man under the moon on Sunday* (p. 355) - displays three initial /m/'s and five /n/'s in other positions, twice in the salient glossolalic cluster /nd/ (*under, Sunday*).

In the poem "love is more thicker" the onset liquid of *less* underlies the nine-/l/ alliteration; correspondingly, the final sibilant of the same word prompts the six-/s/ alliteration in the even quatrains: II₃ *4sea - IV₁ same - 1sunly*, 3*4sky*. The sole other appearance of the same initial sibilant - I₃ *seldom* - carries in its first syllable a perhaps allusive metaphor of *less* before the latter's emergence in II₂ and multiple repetition in III₁₋₄. Jointly with *less*, *love* also takes part in the liquid alliteration; moreover, the two odd quatrains, opened by this noun, ostensibly reiterate its final consonant, and no other words in the poem end with /v/: I₁ *love - 3wave*; III₁ *love - 2alive - 4forgive*. The semi-rhymes of the poem such as III₂ *2live - 4forgive* heighten the reader's attention to the likeness of final consonants; III₁ *love - 2alive*, two extreme members of the couplet, form a paronomasia tangible both in sound and in meaning. The correspondence between I₁ *love* and 3*wave* is particularly notable in view of their similar syntactic position, not shared by the other nouns of the poem, as well as in view of the poet's surprising selection of the constant "wetness" as the *tertium comparationis* between a wave and love instead of their changeability, inconstancy, mobility, and similar properties familiar to poetic tradition.

The poem starts with the alliteration of grave nasals /m/ and ends with an alliteration of acute continuants /s/: the perceptive association with dark and light respectively (see above, p. 198) is semantically supported by the paronomastic contraposition of the lines - II₁ *it is most mad and moonly* as the close of the introductory alliterative motif and IV₁ *it is most sane and sunly* as the start of the epilogue; with a parallel change in sounds the narrative proceeds from mental and physical shadow into luminosity, with a concomitant semantic transition from II₄ *deeper* to IV₄ *higher*.

Besides the three alliterative consonants cited, there occur very few onset consonants in the "lexical" words of the poem. Among them only two sonorants - /r/ and /n/ - appear, each once in the poem in the second line of the two odd quatrains: I₂ *recall*, III₂ *never*. The few remaining onset consonants are each represented by one pair of semantically interconnected words or phrases: I₁ *thicker - 2thinner*, III₃ *3bigger - least begin*, II₄ *deeper - IV₂ die*. If one takes into account the onset consonants of the two modal verbs also, the II₂ *shall* raises to three the number of alliterative sibilants in the second quatrain (II₃ *4sea*), and IV₂ *cannot* demands to be confronted with the second consonant in the initial cluster of the twice-occurring IV₃ *4sky*. Contiguous words with initial vowels are brought together by the identity of adjacent sonorants: /n/ and /l/ in II₂ *shall unbe - II₃ and IV₃ than all - only*; /l/ in III₁ *always - 2alive*.

As we have indicated in passing, the identity of two or more concatenated vowels under stress acts as an efficient unifier of a verbal and metrical sequence (one may recall how in the third quatrain the individuality and integrity of the concluding couplet is ensured by the chain of four lax /l/'s under the last accent of each hemistich: III₃ *3bigger - begin - 4littler - forgive*). The opposition of laxness and tenseness serves to sharpen the contrast between the odd and even quatrains: almost all (over 84 percent) of the accented syllables at the end of the hemistichs are implemented by lax vowels in the odd quatrains and by tense ones in the even quatrains (or also by diphthongs in the fourth quatrain). The first quatrain follows this order in the first three lines but shifts to tense vowels in the fourth (*frequent, fail*). In one out of eight syllables the second quatrain abandons its tense vowels (II₂ *less*).

Close attention to "love is more thicker" shows how sound correspondences acquire or enhance a semantic propinquity and how they act as kindred submorphemes upheld by a mysteriously complex and

cohesive network of metrical, strophic, and compositional means (cf. Reinhart and Tami-Ghez). The nonlecturer Cummings told his Harvard audience that "art is mystery" (1953: 82). The relative condensation, ostensibility, and self-containment of various parallelistic contrivances counterpose poetry to everyday language, but the significance of the relative differences does not permit us to absolutize the chasm between the two spheres, first and foremost because, as was announced in the epigraph to this book, "the dogged acceptance of absolutes" fetters the mind and benumbs the spirit.

We have pointed out, or rather in his quatrains the poet pinpointed, effective and meaningful pairs of rhyming or alliterative words, but the same consonances exist, somewhat deadened and hidden, in our ordinary speech: for instance, *through thick and thin, forgive and forget, deep-sea, sky-high*, etc. Our puns, whether deliberate or subliminal, stand nearer than one would think to paronomasias, which are a subadjacent motivating power in verbal art. The paronomastic pair *Caroline - Scartel* which we quoted from a jump-rope rhyme, as well as the ancient anagrams discovered by Saussure, such as the name *Scipio* hidden in the Saturnian verse *Taurasia Cisanana Samnio cēpit* (see Starobinski 1971: 29), are among the numerous examples of a play on proper names (due to the utterly particular position of names in our vocabulary), a play which the individual inventiveness of children and adults shares with folklore. The latter is ready, for example, to establish a paronomastic and mythopoetic connection between the name of a saint and the seasonal agricultural tasks and forecasts calendrically close to the saint's day, as in the Russian rural omen: "V den' *Mokija mōkro i vsē leto mōkroē*" - 'If it is wet on the day of St. *Mokios* (May 11), the whole summer will be wet' (Dač' II: 339).

Rhymes and other correspondences in the sound formation of words play a prominent, patent role in verbal art, but their latent participation in ordinary linguistic experience must also not be underrated (cf. Bolinger's initiatory study of 1950, "Rhyme, Assonance, and Morpheme Analysis," reprinted in 1965: 203 ff.; M. Bloomfield 1953; and Marchand 1957). Submorphemic etymology (see above, pp. 201 f.) is a vital facet of language. It is noteworthy that the writer of the book *How to Do Things with Words*, John L. Austin (1911-1960), a linguist no less than a logician, at the end of his life worked precisely on a synchronous, submorphemic processing of English lexical material and in conversation with Noam Chomsky asserted the relevance both of these affinities in language and of their investigation.

Valuable information on the speaker's submorphemic operations may be drawn from the "tip of the tongue" phenomenon. Roger Brown and David McNeil devoted a special study to this "state in which one cannot quite recall a familiar word", particularly a proper name, but comes close to it by recollecting words of similar sound shape or by testing *ad hoc* invented vocables because one remembers certain elements of the wanted name: "these more easily retrieved features of low-frequency words may be the features to which we chiefly attend in word-perception" (1966: 325). The number of syllables, the place of the stress, the beginnings and endings of words prove to be traits "favored by attention". One may add that sonorants also are readily recalled. Thus for instance, when one of the authors was unable to recall *Cornish*, the name of a street, he thought instead of *Congress* and *Corinth* and *Concord*; the inner sonorants *r* and *n* common to the 'target word' and to the three substitutes showed their presence in his mind, side by side with the initial consonant and with the syllabic and accentual mold of the searched-for name. The adhesiveness of speech-sound associations may be exemplified by the avoidance in moralistic talks of words bearing even a partial phonic resemblance to some vocables considered obscene.

Notwithstanding the varied proofs of speakers' and listeners' thorough attention to speech sounds, the pattern of ordinary language is nowhere near the autonomous, in fact guiding role sounds and their distinctive features play in poetry, which promotes the deliberate accumulation of similar sounds and sound groups to the constitutive device of the sequence (see above, p. 219). Robert Godel (1967) brought forward a telling example of two opposite approaches to the immediate repetition of one and the same sound group, e.g. a syllable, in a syntactic string: namely, the avoidance of such an iteration in ancient Latin prose and its use as a welcome sound figure in verse, which is rich in duplications such as *Dorica casira* (Virgil, Propertius, Ovid) or *hasia Tago* (Virgil), *hasia Tagen* (Statius), *ista Tages* (Lucretius). Once more the spirit of poetry NUMERO DEUS PARI GAUDET.

XII. LANGUAGE AND POETRY

A dynamized tension between *signans* and *signatum* and in particular the direct interplay of the speech sound with meaning - is superimposed by Cummings on his poem and in general by poets upon their creations destined:

to overcome the palling flatness and univocality of verbal messages, to curb the futile and impoverishing attempts aimed at 'disambiguation', and to affirm the creativity of language liberated from all infusion of banality.

The passion of the linguist and poet Edward Sapir for the work of the poet and linguist Gerard Manley Hopkins, and particularly for his "almost terrible *immediacy* of utterance", a power spontaneously bound with a "wild joy in the *sheer sound* of words" (1949: 500), reflects both Hopkins' and Sapir's magic insight into the "in-scape" of poetic creation. One recalls the nickname "medicine man" assigned to Sapir by Leonard Bloomfield (see Hockett 1970: 540).

That spell of the "sheer sound of words" which bursts out in the expressive, sorcerous, and mythopoetic tasks of language, and to the utmost extent in poetry, supplements and counterbalances the specific linguistic device of 'double articulation' and supersedes this disunity by endowing the distinctive features themselves with the power of *immediate* signification. Their *mediate* way of signification totally disappears in the poetic experiments of the early twentieth century, which are parallel to the abstract trend in painting and akin to the magic ingredient in oral tradition (cf. RJ V: 353 f.; Liede II: 221 ff.). Thus, in rereading the poem "Das grosse Lalulä" of Christian Morgenstern (1871-1914) in his book of *Galgenlieder* introduced by Zarathustra's saying - "a true man conceals in himself a child who wants to play" - one is struck by lines such as *Seiokrontho - prafriplo* and *Hontraranu mironente*, with their glossolalic *nir*, as well as by the subsequent line *Entepente, leiolente*, which is quite close to counting-out rhymes: the *ente pente* of the *Abzählreime*. And in fact it was precisely the counters of children's games (such as *éni beni, áni bání*) which inspired the verse "Vánja-bánja" of the famous *Nebesnye verbjužata* "The Heavenly Baby Camels" by the Russian avant-garde poet Elena Guro (1877-1913).

The ubiquity and mutual implication of Verb and Verbal Art impart a seminal unity to the forthcoming science of the two inseparable universals, *Language and Poetry*.