This chapter focuses on the universal language correlates of a semantic-pragmatic pattern that is here assumed as a humor universal, i.e., the Script Opposition (Raskin, 1985). After a discussion on the main research issues in human sciences, three dimensions for the study of humor universals are proposed, and some possible research paths are considered. A comparative analysis of puns is proposed as an example of empirical verification of humor universals. A first reason of this choice is the importance of humor universals testability: at the present time humor language universals, e.g., pun mechanisms, are the only ones that have undergone a systematic verification. This state of the art is related to the cluster of variables (e.g., situation, social and cultural background knowledge, attitudes) that sciences must take into account when dealing with humor.

Besides, the pun is here seen as a prototype of verbal humor. Puns are clearly identifiable as a means of humor production (Oring, 2011), and share with other types (e.g., non-verbal humor phenomena) the same semantic-pragmatic pattern. As remarked by Morton (2014), relativism is sometimes used to deny the possibility of cross-cultural comparisons (whose pioneers come from the anthropological field); yet,

while many anthropologists might agree that the content of humor is invariably culturally specific [. . .] Douglas’s abstract definition of humor as a play on form [. . .] depends fundamentally on a universal cultural account of humor as bisociation [. . .] the standard example of bisociation in humor is punning, which depends on the phonemic structure of particular languages, yet can be performed in all of them.

(pp. 46–47)

Within the linguistics application to Humor Research, the necessity for cross-cultural analyses has been asserted (Attardo, 1996; 2008). Universals in linguistics have been discussed by Greenberg (1966/2005) and represent an important issue within the generative perspective; some related ideas, such as the relationship between language structure and use (e.g., frequency, Zipf, 1935), have been recently reconsidered in cross-linguistic analysis (Bybee, 2006; 2010). These studies address the fact that some phenomena, pertaining to different levels of the language system (e.g., phonology, morphology), can be present in all languages. A basic aspect is
thus the analysis of data in a cross-linguistic/cultural perspective; the empirical grounds make universals, since the publication of Greenberg's work, concrete and accessible (Haspelmath, 2005). Formulation of universals should assure their testability; at present time, “the empirical work of testing the predictions on a representative sample of the world's languages remains to be done” (pp. x–xi).

A program of research initiatives is included in a contribution (Evans & Levinson, 2009; Levinson & Evans, 2010) where language universality and diversity are considered in terms of cognitive constraints; the premises of such a model can be taken into account also in disciplines other than linguistics. Recurrent patterns across languages/cultures are seen as stable solutions satisfying multiple design constraints that reflect cultural-historical factors and the characteristics of human cognition. For example, it is assumed that languages can recruit their sound systems from fine phonetic details that vary in almost unlimited ways; thus, languages can systematically differ in arbitrarily fine phonetic detail. As a consequence, analyses should start from a set of universal phonetic resources organized by the cognitive system; cultures would differ in the way they classify and use such resources.

**Historical Perspective**

The universality of humor is maintained by influential scholars within psychology, anthropology, and sociology. As argued by Apte (1985) and Lefcourt (2001), humor is a universal aspect of human experience, occurring in all cultures and virtually all individuals throughout the world. Edmonson (1952, p. 6) highlights “the assemblage of observed regularities in behavioral sequences leading to laughter” as a crucial feature of humor. Not only are humor and laughter considered universal; according to Berlyne (1969) humor and play are strictly related, while Martin (2007) argues that all forms of humor seem to originate in a basic play structure.

Laughter (one of the least understood human behaviors) and smiling (the most frequent facial response to humor: Ruch, 1993) are considered universal expressive patterns in the sense that they are innate (Ruch & Ekman, 2001); laughter is supposed to be present before human beings develop speech. At the same time, the difficulty of determining the universality of humor on the base of laughter is assumed (Olbrechts-Tyteca, 1977). From the psychological perspective, it is clear that laughing or smiling in response to humor not always corresponds to humor appreciation or enjoyment (Frank & Ekman, 1993); across cultures, the functions and meanings of such expressive-communicative social signals significantly vary (i.e., humans from different cultures smile in situations involving both negative and positive emotion, such as embarrassment, surprise, discomfort), to the extent that no universal facial expressions of enjoyment have been recognized (LeBarre, 1947; Mead, 1975).

Also functions of humor are hypothesized to be universal, and classified into two macrocategories: social management (e.g., reinforcing social relationships, remedying of embarrassing or unpleasant situations, gaining attention, pointing out the violation of rules: Nilsen, 1983; Norrick, 1984) and defunctionalization (Long & Graesser, 1988). The first is strictly related to the functional explanation of humor proposed by the pioneer studies in anthropology (Parsons & Beals, 1934; Radcliffe-Brown, 1940; 1949; Hammond, 1964)—that is, social control, or humor as the deterrent/punishment for socially deviant behaviors. The latter mainly concerns the social play in which language is used for humorous purposes. In cross-cultural psychology, humor is approached as a universal in terms of its effects on health; the focus is thus on the factors supporting/banning humor (Kruger, 1996; Lefcourt, 2001; Dean, 2003). In terms of social functions, another important element related to the universality of humor is the “joking
relationship,” whose widespread existence is documented by various research (Apte, 1985); such codified relationships are aimed to maintain social harmony.

At a more general level, humor is considered a universal, partly natural and partly acquired, mode of communication (see the concept of non-bona-fide communication: Raskin, 1985); that is, a use of language for purposes (or functions: Jakobson, 1960) other, or further, than sharing information, intentions, judgments, orders, requests, etc. Humor is a human-specific dimension found throughout all of recorded history; no cultural group has ever been discovered that was devoid of a sense of humor (Chiaro, 2010): “responding to humor is part of human behavior […] other parts of which comprise such important social and psychological manifestations of homo sapiens as language, morality, logic, faith, etc.” (Raskin, 1985, p. 2). Thus, also in terms of language, humor per se is a universal: “humor, like communicating and instructing, is one of a small number of pervasive and universal language functions” (Bergen & Binsted, 2004, p. 79).

Even though humor is universal to humankind (Monro, 1963; Berlyne, 1969; Sternthal & Craig, 1973), the type of humor expressed and/or appreciated may vary considerably across cultures. The specific features (e.g., targets, contents) of humor in different social and ethnic groups are the core issue of ethnic humor studies that highlight the most salient elements, norms, values, and systems of relationships of a culture and its worldview (Davies, 1986; 2014; Ziv, 1988; Lincoln, 1993; Mbangwana, 1993; Fry, 1997; Al-Khatib, 1999). On the other hand, cross-culturally spread taboos (e.g., sex, obscenity) are considered common subjects of humor (Berger, 1999). A trans-cultural nature is also attributed to the character of the fool (Radin, 1956) that can be found in the Amerindian cultures (e.g., Inca courts) as well as the African ceremonies and the Japanese theatre. Concerning humor preferences and appreciation, some cross-cultural and cross-national studies have been conducted (Morain, 1991; Nevo et al., 2001), with different results. Humor is, thus, something present in some form in all human groups and, at the same time, it is recognized as a culturally and historically contingent construct (Fine, 1983; Boskin, 1987; Hall et al., 1993; Purcell et al., 2010). Different cultures view humor in different ways (Alford & Alford, 1981).

As a consequence, a first question is related to what can be considered as universal in humor. Schmitz (2002), on the base of Long and Graesser (1988), divides humor into three categories: universal, culture-based, and linguistic. Universal humor is often equated to non-verbal humor (e.g., slapsticks: Boxman-Shabtai & Shifman, 2013) as well as to humorous expressions not related to linguistic features or cultural elements (Jabbari & Ravizi, 2012). Because “what seems to have been lost on most researchers is that beyond this reference to the surface form of (part of) the text, verbal and referential humor share the same deep semantic and pragmatic mechanisms” (Attardo, 1996, p. 1), universality should be considered for verbal as well as non-verbal forms of humor. Moreover, cultural differences are not exclusively humor-related (i.e., non-native speakers should know the same things in order to understand a joke vs. a political debate on the Watergate affair: Attardo, 1994, p. 212).

Therefore, in the search for, and empirical verification of, humor universals it seems important to focus on basic, shared cognitive patterns and elements, as is suggested by the six Knowledge Resources of the General Theory of Verbal Humor (Attardo & Raskin, 1991). A further reason for setting humor universals research in the cognitive framework is the fact that some humor phenomena, such as jokes and comedy, appear to be easily borrowed from culture to culture (Mintz, 1983); cultural modifications in joke translation often consist of replacement of personal names, brands, etc. (Shifman et al., 2014). This perspective is also important for applied research, as the issue of general humor mechanisms are related—indeed,
the “appeal” of humor as a universal communicative technique (Unger, 1996; Beard, 2005) and
the construction of models (e.g., taxonomies) for the analysis of cross-cultural humor-based
advertising (Crawford & Gregory, 2015).

We can approach the concept of humor universal through three comparative dimensions:
(1) conceptual features (e.g., ambiguity); (2) phenomena (e.g., jokes, irony, dialect humor); and
(3) aspects of phenomena (i.e., irony factors—ways in which joke texts are arranged and mecha-
nisms of humor understanding/appreciation). With respect to such issues, within the frame-
works of cultural anthropology, ethnography, philosophy, linguistics, psychology, and sociology,
some scholars came to very similar conclusions, though they were not yet supported by a huge
cross-linguistic/cultural base of empirical data.

1. Related to such conclusions is the cluster of conceptual features identified by human sci-
ences as cross-cultural constants. Through synchronic and diachronic analyses of literary
and communicative practices, themes, functions, and constraints, cross-cultural features
of humor have been recognized in ambivalence (Bakhtin, 1979), unexpected, overturn-
ing, lowering or degradation, violation of norms, highlighting/penalization of a deviant
behavior. Morton (2014) refers to universal structural properties through the notion of
anti-structure, i.e., “the state of being betwixt and between (liminality) [. . .] formal contra-
diction [. . .] reversals and inversions to subvert rules and regulations” (pp. 46–47). A dialect-
ic of perspectives (recurrent elements vs. non-reducibility of language- and culture-specific
elements—e.g., the “non-exportable” nature of humor (Eco, 1981) emerges from these
studies. Although the features just listed are not humor-specific, at the same time, such fea-
tures are present through different combinations and declinations, in texts and contexts that
have been analyzed since the last half of the twentieth century (Guidi, 2008). The model
of family resemblance (Wittgenstein, 1951) is important in order to understand this first
dimension. None of such features, taken alone, can be assumed as a humor universal; the
outlined cluster should be considered in a holistic perspective, i.e., one or more (combinations
of) features are present in any humor manifestation.

Such features can be referred to as the psychological concept of incongruence that, even if
not humor-specific, is a constant of the reflections on humor since the philosophical approach
of Plato. The incongruity-resolution model (Suls, 1972; McGhee, 1979; see also Koestler, 1964)4
is important for humor universals research because it points out how the cognitive framework
can isolate potentially universal elements, or aspects, of humor. A cognitive approach can, indeed,
provide a more basic understanding of how humor mechanisms operate across different cul-
tures (Alden et al., 1993). Nonetheless, processing (and resolving) the inner incongruence of
a humorous stimulus is seen as an evolutionary/adaptive advantage in the Disabling theory of

The same conceptual features, as well as the incongruity model, are gathered and syn-
thesized into an operative model (i.e., a set of verifiable conditions) by Raskin (1985). The
Semantic-Script Theory of Verbal Humor is the only one individuating two conditions for
humor occurrence; because it has not yet been falsified, we can assume the semantic-pragmatic
mechanism of Scripts Opposition (whose neural correlates are analyzed, for example, by
Casadonte, 2003) as a first (and absolute: see the section “Methodology and Sample Analy-
sis”) humor universal. The model is also at the base of the General Theory of Verbal Humor
(Attardo & Raskin, 1991), which lists six parameters to be instantiated in a humorous text;
such parameters (Script Opposition, Logical Mechanism, Target, Situation, Narrative Strategy,
Language) can be considered a systematic base for the development of comparative studies on humor universals.

2. Concerning the presence of specific phenomena across languages and cultures, I only point out a datum. Despite its universality, humor derives uniqueness from the cultural context (Apte, 1985) or co-text. As argued by Sherzer (p.c.), the kind of text identified as “joke” within the so-called Occidental culture does not exist in others, e.g., the Kuna culture. A cross-linguistic analysis of puns (Guidi, 2008) shows that, besides contents of humor, text types and cultural contexts represent a limit in the search for humor universals: this is due to the fact that so many textual/contextual patterns in which humor regularly occurs (e.g., the Balinese verbal routines, the Japanese Rakugo, the Tzotzil verbal dueling) are culture-specific. This does not imply that Knowledge Resources, such as the Narrative Strategy, are not crucial in comparing jokes or other text types; for example, the question-and-answer pattern, as a language-independent construct, could be detected across languages/cultures (Petrenko, 2008), with specific instantiations (e.g., riddle, knock-knock joke).

3. Concerning specific aspects of humor phenomena, according to Apte (1985) the “verbal techniques” of humor “are universal […] probably used in all cultures, although they may not be as extensively defined as the numerous structural processes in language. At the basis of much linguistic humor are the various types of linguistic units and their interrelationship” (pp. 178–9). In a similar way, Hill (1985) argues that “punning owes its own occurrence to the essential nature of language and meaning, and […] it must therefore occur in all languages and cultures” (p. 450). The importance of such reflections is also related to connections made by Hymes (1964) between humor and verbal play. Such juxtaposition makes even more clear the fact that linguistic mechanisms, processes,6 clues at the base of humor are not only the correlates of a common semantic-pragmatic pattern; they are language mechanisms tout court:

there are two anthropological maxims for the study of speech play and verbal art: unlike some forms of art, (1) their medium is itself already culturally structured and (2) they are universal. Hence the need […] to consider the structure of the language which is their mode of existence.6

(pp. 291–293)

We find the same idea in the first analyses of verbal humor in non-Indo-European languages. Sapir (1932), looking at the relationship between productions of native speakers and the characteristics of Navaho language, argues that the homonymy relationship is the most important factor determining the occurrence of puns; the great number of homonymous elements in Navaho allows the humorous reinterpretation of words and phrases in riddles, proverbs, and puns.

Then such a consideration can be found in Pike, one of the first linguists (with Emeneau, 1947) collecting data on non-Indo-European humor. The key idea influencing the following studies is that homonymy—as a structural property and a constitutive ambiguity of language systems—can be exploited for humorous purposes. Homonymy and near-homonymy presumably occurs in all languages and tonal ones, such as Mixtec, are no exception.

It is not by chance that such kinds of phenomena (homonymy, near-homonymy, and so on) represent the base of the first taxonomies of puns. Such scholars implicitly highlight the possibility of finding unifying elements across languages/cultures. The aim to individuate a constant and the ability to explain the nature of humorous texts beyond differences of time
and space, also inform Greimas’s work (1970) on jokes, that moves from a conceptual feature (contrast or disjunction) to an effort to model such texts in terms of isotopes (i.e., semantic interpretations).

The Development of Puns Studies as a Path Towards Humor Universals

For a long time, and mainly within a structuralist approach, puns have been the sole application field of linguistics to humor (Raskin, 1985; Attardo, 1994). Their universality has been taken for granted within the scientific community but has not been supported by experimental data; the models proposed appear partially limited with respect to the aim of accounting for, and predicting, puns mechanisms across languages/cultures. For example, “systematic” taxonomies of puns (Attardo, 1994), centered on the levels of language systems, appear to be based on Indo-European languages; as a consequence, their classification categories are invalidated by typological differences (e.g., tonal vs. non-tonal, analytic vs. fusional language).

Important enhancements have been conveyed by a second generation of studies, based on phonetic similarity/distance. Such concepts have gained a crucial importance since the 1980s; taxonomies simplify the set of classification criteria and point out the relevance of the phonetic structure. Therefore, the string (vs. the word), as a “linear sequence of elements of determinate length and constitution” (Crystal, 1991, p. 329) emerges as the unit of analysis; this is an important step in the search for universals, because it foregrounds (1) the basic, abstract elements (or resources) of the phonetic chain involved in punning, and (2) the mechanisms of manipulation of such elements. The appropriateness of the string is claimed by Attardo (1994), who notes that puns manipulate words as well as smaller and larger units, i.e., “arbitrarily large segments of utterances […] strings of phonemes arbitrarily chosen in the utterance” (pp. 131–132). The string is used by Hempelmann (2003), Ritchie (2004), and Guidi (2012a, 2012b).

Because phonetic similarity emerges as a core factor, phonetic distance is deeply analyzed. Vitz and Winkler (1973) define phonetic distance as “the proportion of phoneme positions after alignment which do not match” (p. 376). The first hypothesis on a threshold of phonetic distance is due to Attardo (1994), who considers phonetic similarity as crucial with respect to pun processing and appreciation, also in the light of the metalinguistic nature of puns (i.e., a text making an implicit reference to its linguistic structure). The author hypothesizes that such a recognition process could fail when a certain phonetic distance threshold is passed, i.e., when the two strings (target and pun—e.g., respectively, dying and lying in Diplomacy: the fine art of lying for one’s country) are phonetically distant to the extent that their similarity is too difficult to be perceived. Phonetic distance thus comes to represent a cognitive constraint, to be satisfied by patterns of punning manipulation. Scholars who focus on phonetic distance are Lagerquist (1980), Monnot (1981), Zwicky and Zwicky (1986), Sobkowiak (1991), and Hempelmann (2003). The latter deals both with measuring phonetic distance and establishing a threshold of perceived similarity, and is the first application of Optimality Theory to puns. Hempelmann calculates distance according to the number of segments (i.e., phonemes) differing in target and pun and the difference, in terms of distinctive features, between each pair of segments. His study determines a threshold corresponding to five phonemes. It is hypothesized that, if a pun went above this threshold, the target string would be not recognizable. Such a threshold has been extended to cross-linguistic comparison and tested in languages other than English (see the section “Methodology and Sample Analysis”).
Core Issues and Topics

In the outlined framework, the primary focus in the study of humor universals is not on the specific Target (e.g., cultural symbols) or Situation represented in humor (or place in which humor occurs); it is on the cognitive, semantic-pragmatic mechanisms, Logical Mechanisms (see their relation to the resolution of humorous incongruities: Attardo, 1997), Narrative strategies (e.g., questions-answers, exposition, dialogue as narrative arrangements of jokes), and formal (e.g., linguistic) general mechanisms through which humor is expressed/understood. The universal to be tested is not, say, a social category as the humor Target; the universal to be tested is the presence of a Target of humor and, at a more detailed level, the fact that such Target is characterized (and laughed at)—for example, on a social or linguistic basis (e.g., a different language: Cardona, 1976; non-grammatical expressions: Raskin, 1985). Some specific Script Oppositions may not be present in a culture/language community, but the point would be to find humor that is not script-opposition-based, or jokes not including a punch line in a specific position of the text (see Attardo, 1994). Script Opposition and Target can be analyzed in terms of absolute universals (Evans & Levinson, 2009); the matter would not be sampling, but finding one counterexample. As for puns, phonetic similarity represents the Logical Mechanism, and a cognitive constraint (the lower the grade of phonetic similarity, the higher the cost of pun processing); for other phenomena, the relationship Logical Mechanism/cognitive cost can be analyzed. Consider jokes in a cross-cultural perspective: can Logical Mechanisms differ in terms of cognitive load? Which Logical Mechanisms recurrently gather together the opposed scripts? Which Narrative Strategies are more frequently related to specific Logical Mechanisms?

The issue of phonetic similarity is even more important in the light of research focused on the perceptual dimension of language universals, which shows how speakers can avail themselves of the universal form-meaning relations embodied in the biological code. Such dimension is relevant with respect to the pragmatic correlates of punning manipulation. Besides phonetic similarity and intentionality, which conditions do allow the felicity of pun? Which is the role of cues, or humor markers, i.e., elements that distinguish humor from other aesthetic experiences (Berlyne, 1969)? How to compare them across languages/cultures? Regarding verbal cues, a promising result concerns the relationship between puns and idioms. According to scholars in Conversational analysis (Sacks, 1972; Sherzer, 1978), puns are likely to occur in formulaic expressions. Despite the language-specificity of such expressions, cross-cultural tendencies emerge (Gossen, 1973; Partington, 2006; Litovkina, 2014), and the current base of data could be enhanced by further corpora studies. Formulaic phrases are present in 67% of Hempelmann’s (2003; 2004) corpus of English puns; in Guidi’s (2008) multi-language corpus, they are involved in 41% of cases. Two main hypotheses can be formulated on the correlation between punning manipulation of an idiom (e.g., English/Balinese: target see you later, pun siu surat “1,000 letters”) and perlocutionary effects. On one hand formulaic expressions, because of their salience (i.e., frequency, familiarity, accessibility), could act as clues, facilitating the target recognition; this can explain why puns tend to manipulate them. This can explain why puns tend to manipulate them. On the other hand, experimental data (Guidi, 2012b) show that puns manipulating idioms are more frequently judged as errors by native speakers; the idiom seems to act as a limit; i.e., its violation leads to the interpretation of the pun as an ill-formed, or senseless, utterance. Other verbal cues are represented by specific lexical and grammatical intensifiers, as well as metalinguistic comments and tropes (see Burgers et al., 2012; Fusari, 2013 for irony). In puns, phonetic similarity (also involving idioms) guides the hearer in backtracking the whole expression and realizing the overlapping of opposed scripts. This relates to Non-Bona-Fide communication and recognizing the humorous intention
of the speaker. Also regarding other phenomena and modalities, it could be important to compare how humorous intention is signaled: the laughter (Vettin & Todt, 2004) or the tone of voice and the facial expressions (Caucci & Kreutz, 2012 for sarcasm) cues, or markers, of humorous intentions in languages/cultures other than those in which such aspects have already been shown? And, do languages share the ways in which such cues occupy specific positions in the text, discourse, or conversation?

Concerning the Knowledge Resource of Language, because cognitive processes and constraints are assumed here as a base, a first issue concerns the determination of an operative model for cross-linguistic comparison of humorous phenomena. Results of second-generation studies point in this direction, highlighting the overlap between puns and ludlings: this model corresponds to the manipulation of phonetic material, based on shared knowledge, and aimed to goals other than those of Bona-Fide communication. Whether the goal is to amuse the hearer, and/or to respond to the needs of in-group communication, the speaker intentionally modifies, on the basis of shared cognitive rules/processes, the elements of a string corresponding to a (or part of a) sentence or a word. At a high level of abstraction, such manipulation takes the form of one or more of the categories of change in structural rhetoric: an item can be altered “per adiectionem,” “per detractionem,” “per immutationem,” or “per transmutationem” (Lausberg, 1998, §58, pp. 217–220). Other results of second-generation studies relevant for the definition of such a model are related to the line between puns and errors. On the semantic-pragmatic plan, Script Opposition seems to differentiate puns from phonological-lexical errors, slips of the tongue, and spontaneous blends (Guidi, 2012a, 2012b). While in puns relationships other than Script Opposition (e.g., co-hyponymy) seem not to be present, in spontaneous phonetically based phenomena, a semantic part (Script Opposition, or other relationships), or “interference” (Motley, 1980), can’t be excluded. Comparative corpora studies, besides providing new semantic-pragmatic and phonological data on humor universals, could contribute to further define such a boundary.

A last topic deserving cross-cultural analyses is metalanguage of humor. Is a common organization recognizable across folk taxonomies? Such an issue affects the definition of the humor universal itself and its level of generality; in this case, the object is represented by semantic components (Langacker, 2009). Guidi (2006; 2012c) shows four components to recur in six humor classifications: Verbal (humor expressed through language: Zinacantan ꙭištol ꙭil, lit. toy tale or “frivolous talk, joke”); Codified (humor characterized by constraints on text structure, or linguistic form, or situation in which it occurs—e.g., rituals: Tzeltal ꙭil k’op, lit. Carnival language or “humorous speech, jests occurring in Carnival”); Bilateral (humor characterized by a double constraint—i.e., a specific number of participants producing specific actions: Tzotzil ba¢’i ꙭištol ꙭil, lit. genuine frivolous talk or “verbal dueling, puns”); Aggressive (humor directed to a target with explicit derogatory tones and purposes: Tzotzil jolom-k’optay, “to ridicule”). These components are hypothesized as a cross-culturally shared structure, i.e., a pattern of features grouping/differentiating in a similar way the words of the humor field. Semantic values, as well as specific combinations of components, are proposed as cultural specificities. For example, all analyzed languages tend at least to discriminate between Verbal and +/− Verbal humor (Basque iririmarra or “caricature”), and between Aggressive and non-Aggressive humor; the combination (Verbal, Bilateral) is found to be lexicalized only in Chinese, English, and Tzotzil.

Methodology and Sample Analysis

The methodology outlined here is based on a definition of pun, used as an operative model (i.e., a tool for cross-linguistic comparison) whose theoretical framework is represented by
Optimality theory (Prince & Smolensky, 1993). Autosegmental Phonology (Goldsmith, 1976) is used for data representation and comparison (through Segments tiers, Consonant-Vowel tiers and Tonal tiers). The model is related to Greenberg (1966/2005) with reference to a hierarchy of constraints as the interpretive mechanism and a series of cognitive-linguistic patterns (i.e., phonological processes modifying elements of strings) as empirical universals to be verified on multi-language corpora.

The main points related to Optimality theory, whose hierarchy of violable constraints has proven to account for puns’ cross-linguistic tendencies, are the following. Phonological patterns (e.g., substitution of phoneme clusters, as in English/Navaho: target *studebaker* or “car trademark,” pun *hastoi bibía* or “old man’s stomach”) are bound to phonetic similarity and designed as violations of constraints. Marked/unmarked (e.g., metathesis/substitution of phonetic elements) is equated to less frequent/more frequent and, here, to more costly/less costly in terms of cognitive processing. Markedness (and its cognitive cost) is a scalar concept; e.g., a frequency-based hierarchy of phonological processes can include metathesis (least frequent, most marked), addition and deletion (less frequent, less marked), and substitution (most frequent, unmarked). Low frequency/markedness are related to a high processing cost, while high frequency/unmarkedness are related to a low processing cost.13

On a corpus of English puns, Hempelmann (2003) examines violations of constraints postulated by Optimality theory. Such theory models language diversity in terms of differences among hierarchical arrangements of universal and violable (an important difference with previous approaches in generative grammar), constraints (e.g., No Metathesis). The scholar hypothesizes a correlation between phonetic similarity and frequency of puns: the lower the phonetic distance, the higher the frequency in the corpus. The proposed hierarchy of constraints is ordered according to the frequency of their violation and their cost in terms of phonetic similarity:

higher-ranking constraints rule out [. . .] “less similar” output forms [. . .] When we observe one output and not another, it is essentially the same thing to say [. . .] that in a description in OT the constraints which are relevant in the evaluation of this form are in a certain order, implying different levels of perceived similarity.

(Hempelmann, 2003, pp. 56–57)

The hierarchy is arranged from the most to the least frequent corresponding violation.

<table>
<thead>
<tr>
<th>Constraint</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDENT(f)pt</td>
<td>no change at level and type of feature f</td>
</tr>
<tr>
<td>MAXpt</td>
<td>no deletion</td>
</tr>
<tr>
<td>DEPpt</td>
<td>no insertion</td>
</tr>
<tr>
<td>MAX/DEPpt-σ</td>
<td>no deletion/insertion of a syllable</td>
</tr>
<tr>
<td>IDENT(’)pt</td>
<td>no change of stress position</td>
</tr>
<tr>
<td>LINpt</td>
<td>no metathesis</td>
</tr>
</tbody>
</table>

(Hempelmann, 2003, p. 87; p = pun, t = target)

On this hierarchy is based the cross-linguistic analysis of puns (Guidi, 2008) aimed at verifying the existence of common punning mechanisms and providing a predictive classification for further comparative studies. The following definition is operative in the sense that it can be used to describe puns in any language; it is represented by a set of conditions, hypothesized to operate simultaneously in punning.

A pun is a phenomenon consisting of the manipulation of a string of undetermined length, which represents a section of an utterance. Such manipulation consists of an exploitation of
phonological processes ordinarily involved in language, which can be reduced to four basic categories: addition, deletion, substitution, and inversion. This manipulation operates within a certain threshold—it does not involve more than five elements (which can be phonemes, syllables, word and syllable boundaries, stress or tone patterns); can occur in any position of the string domain (initial segment, final one, any other) and of the syllable domain (onset, nucleus, coda, rhyme); evokes two (or more) scripts, whose relationship is a Script Opposition; is intentionally performed by the speaker and/or perceived as intentional by the hearer (Guidi, 2012a).

<table>
<thead>
<tr>
<th>PROCESS (PUN)</th>
<th>CONSTRAINT</th>
<th>PROCESS (CASUAL SPEECH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substitution</td>
<td>IDENT(F',) constraint</td>
<td>assimilation, dissimilation, lenition, fortition, lengthening, shortening, neutralization</td>
</tr>
<tr>
<td>Deletion</td>
<td>MAXpt constraint</td>
<td>truncation</td>
</tr>
<tr>
<td>Addition</td>
<td>DEPpt constraint</td>
<td>epenthesis, reduplication</td>
</tr>
<tr>
<td>Inversion</td>
<td>LIN constraint</td>
<td>metathesis</td>
</tr>
</tbody>
</table>

The definition was tested on 209 puns across 15 languages differing in family and morphological typology; the main goal was to find, in each language, a pun for each category of the model (e.g., for any pattern displayed in the definition). Results are synthetized as follows.

The four processes can account for all cases; some are not always realized (i.e., inversion is present in 9 languages out of 15). This datum can be explained both in terms of the limited number of puns available in those languages, and through the fact that inversion is the most costly mechanism. Substitution is realized in all languages, addition in 13 languages, and deletion in 12 languages. Hempelmann’s hierarchy proves to be valid across the languages analyzed; it is thus a starting point for further cross-linguistic testing.

**SUBSTITUTION**
**DELETION**
**ADDITION**
**ADDITION/DELETION of syllable**
**ADDITION/DELETION/SUBSTITUTION/INVERSION of stress/tone**
**INVERSION**

Also the phonetic distance threshold established by Hempelmann is a valid reference point for cross-linguistic analysis: only 10 puns (half of which are bilingual ones) manipulate more than 5 elements.

Elements not considered in previous studies are the word boundary and the syllable boundary. Syllable boundary (.) manipulation tends to match the word boundary (#) one, as in the Balinese pun represented in Figure 3.1 (target *kaki ja?* or “where is your grandfather?” *di semae* or “in the graveyard,” pun *ka kija?* or “where will you go to?” *di semae* or “in the graveyard”):

\[
\text{Figure 3.1} \quad \text{Inversion of the syllable boundary and the word boundary in a Balinese pun}
\]
In other cases, word boundary manipulation involves the rhyme domain: the symbol # is added between syllable nucleus and syllable coda, as in the English/Chinese example in Figure 3.2 (target Silver or “person name,” pun sǐ le rén or “a person is died”):

In semantic-pragmatic terms, pun strings convey attested meanings; the list of Script Oppositions available within the literature can account for all puns of the corpus. In some cases, Script Oppositions show the salience of a certain concept within a cultural context; for example, incest/non-incest (a specification of the essential normal/abnormal opposition) is found only in Tzotzil and related to a specific social hierarchy and system of kinship relationships. In a similar fashion, grammatical/non-grammatical opposition reflects the Mixtec sociolinguistic situation (e.g., contact with Spanish language, prestige of bilingualism) documented by Pike.

**New Debates**

Turning to future research directions, a first set of paths descends from the cross-linguistic analysis outlined earlier. On a phonological plan, humor studies can verify if the model proposed can account for puns in other languages; it is possible to find, in languages already analyzed, puns exploiting processes, manipulating elements, using domains predicted by the definition, but not observed in the corpus; puns in other languages are bounded to the same phonetic distance threshold; the measure of distance proposed (Guidi, 2012a) is suitable for further comparative analysis; Hempelmann’s hierarchy of constraints is suitable to describe puns in further languages or not (in the latter case, different rankings of violations could be observed).

The model proposed is characterized by a high level of abstraction that is necessary in order to compare language systems. Fine-grained analyses can, however, be designed in terms of empirical universals, i.e., hypotheses falsifiable by new findings. For example, if we consider substitution as the basic (i.e., unmarked, most frequent) punning process (i.e., the “No change at level and type of feature f” as the softest constraint), we can hypothesize that if a language shows puns, substitution is present, or, if in a language puns are realized through deletion, addition, or inversion, they are also realized through substitution of phonetic elements.

Another path concerns the tendency to realize puns through manipulation of just one element (Guidi, 2012a: 12 out of 15 languages), or distinctive feature (Lagerquist, 1980). It can be
hypothesized that, if puns are present in a language, cases based on such kind of manipulation are present. Concerning other aspects of the Logical Mechanism (phonetic similarity), it could be verified whether, across languages, puns tend to show an inverse relationship between the value of phonetic distance and the string length; to manipulate the first element(s) (e.g., first phoneme, onset of the first syllable) of the string; to preserve the syllabic structure (Sobkowiak, 1991; Hempelmann, 2003; Guidi, 2008). Moreover, concerning the relationship markedness/frequency/cognitive cost, further corpora-based comparisons of puns could clarify the extent to which marked and unmarked elements (e.g., voiced/unvoiced consonants) oust each other.18

A final point (also relevant with respect to a further comparative analysis of the Script Opposition of language distortion: Raskin, 1985) is that puns do not violate phonotactic constraints, i.e., do not realize impossible sequences. Experimental results in Berent et al. (2008) show that speakers are aware of universal constraints on specific linguistic elements absent from their native language.19 The author’s conclusion is that language universals reflect universal linguistic knowledge, as well as that Optimality Theory sees cross-linguistic generalizations arising from a universal knowledge, which is part of the speakers’ language faculty. Puns as humor universals can thus be seen as evidence of the fact that speakers share a cross-linguistic knowledge (i.e., patterns and constraints) and exploit it (i.e., using patterns to violate constraints) for humorous purposes.

Notes

1 Specific humor categories can of course be individuated, through a focus on the social context, also in the case of puns; see Bell et al. (2011).
2 One of the scholars’ points concerns ethnocentrism and the focus on European languages/cultures as factors leading to spread misconception of (language) universals; the same affect the possibility, for the first-generation studies on verbal humor, to provide descriptive or explicative models suitable for any language/culture.
3 On irony as a “natural and universal” phenomenon that does not need to be learned or taught see Wilson and Sperber (1992); on irony as a cultural universal see Li (2008); Liberman (2009) analyzes situational irony in a cross-cultural perspective, also referring to metalanguage of humor; on translation of irony see Hirsch (2011). A list of universal irony mechanisms is proposed by Corominas I Calders (2010, pp. 151–157), including “contrast between verbal surface and message” and other features, actually analyzable in terms of Script Opposition and Narrative Strategy (Attardo & Raskin, 1991). On irony factors (e.g., evaluativeness) see Attardo (2000). On dialect humor see Davies (2014).
4 An event will be experienced as incongruent if its constitutive elements, and its structure, is perceived as not compatible with normal, or expected, patterns. Incongruity is resolved when the event pattern is recognized as meaningful, or compatible with another, not previously considered, pattern.
5 As highlighted by Sherzer (1976), play languages are based on processes, or “rules” (e.g., metathesis of the syllables of all or most words), not different from those operating in “ordinary” language. The difference is only related to the frequency of use, or productivity, of such rules.
6 The appropriateness of this framework depends on an interdisciplinary approach:

   One can hope that the study of verbal play and art will be extended by the structural analysis of many more individual cases and by the development of cross-cultural typologies and frameworks for controlled comparison […] both activities require close cooperation between linguistic and ethnographic work, for the phenomena are essentially sociolinguistic […] needless to say, linguistic accuracy is the only solid basis for all such work (Hymes, 1964, pp. 291–293).

7 De Saussure (1922, pp. 46–48, 152) considers puns as data, useful to determine the phonological system of antique languages; and, also, as an empirical evidence of the existence, in what we now would call mental lexicon, of associative mechanisms exclusively based on phonetic similarity.
8 Enlightening in this sense is the definition of ethnic humor (Raskin, 1985), whose scripts are acquired separately from linguistic competence and are not part of native speakers’ semantic competence; see
also Davies (1986; 1997 for a comparative study on jokes). The universalist assumption underlying the concept of humor style is examined by Taher et al. (2008).
9 As shown by Chen (2005, p. 187) speakers, regardless of their language repertoire, perceive paralinguistic sound-meaning relationships in unknown languages. Language-specificity would impact on interpretation, i.e., on the association of a given parameter (e.g., a specific tone of voice) with a given meaning (thus on the cue role of the parameter).
10 On meta-communicative signals see Canestrari (2010).
11 The term is used by Laycock (1969) to define secret languages, play languages, ritual languages (phenomena often related to entertainment, but non-necessarily humorous). For a more detailed analysis see Guidi (2012a).
12 On the base of previous studies, dictionaries, and informants’ reports, lexical fields of humor in Basque, Chinese, English, and three Mayan languages (Tzotzil, Tzeltal & Zinacantan) are determined and analyzed.
13 Conrie (2003, p. 209) specifies that “some language universals reflect inbuilt constraints on human beings, in particular on their cognitive capacities […] some other language universals find a […] natural explanation in terms of the relation between linguistic structures and the functional uses to which they are put.” Puns are considered here as violations of soft cognitive and phonological constraints, realized through linguistic patterns that are exploited for humorous purposes.
14 Languages of the corpus (followed by the number of puns collected) are: Balinese (10); Chinese (27); English (12); Italian (14); Japanese (41); Korean (8); Mixtec (13); Navaho (8); Rundi (4); Sanskrit (12); Seneca (3); Tzotzil (24); Vietnamese (16); Winnebago (5); Yoruba (7).
15 For an analysis of this aspect in Arabic punning see Eisele (1997).
16 A language in which puns do not show patterns of substitution would determine the non-absolute nature of substitution as universal.
18 Zwicky and Zwicky (1986, p. 497) show that, in the pattern ‘substitution of occlusive consonants,’ marked sounds tend to oust unmarked ones. See also Sobkowiak (1991) and Attardo (1994, p. 124) for an interpretation in terms of the relationship puns-errors.
19 For example, a test on universal constraints on onset clusters represented by consonant sequences (e.g., block) shows that speakers of languages in which C-C-initial syllables are not present misperceive ill-formed (or, universally dis-preferred) clusters.
20 On the relationship between universals and processing preferences, and the “better predictions” obtainable through processing factors, see Hawkins (2001).

References

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Humor Universals


