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A Taxonomic Deep and Surface Structure Analysis of
'The Lover and His Lass'

0. In analyzing this text, I attempt to see how much can be found out about the
structure of a discourse by the following somewhat pedestrian approach: (1) Label
according to a systematic taxonomy the deep, semantic, or *notional* structure of
the discourse; (2) label its surface structures; (3) identify which deep structures
encode into given surface structures; (4) study the relation of deep and surface
structures not in regard to details of the mapping process but in regard to broader
questions such as: (a) Is a given encoding of deep structure into surface structure
customary or unusual? (b) How is the main thrust of a discourse or some subsidiary
thrust of it served by a given encoding? (c) What tasks are the surface structures put
to and how well do these structures perform that task? (d) Are there points at
which deep and surface structures are apparently at cross-purposes and what does
such deep-surface tension contribute to the thrust of a discourse?

The content on any discourse is considered here to be primarily structured accord-
ing to certain universal notional categories which may be taxonomically catalogued
and put to work for the understanding of a discourse. A well-known set of such
categories is Fillmore's *cases* and *case frames* which are constituted of verbs (or better,
sets of verbs) and a selection of cases. Whether called 'cases', 'roles' or simply (Chafe)
'relations of nouns to verbs', this set of notions has proven of considerable usefulness
and has been applied to a variety of languages. Confronted with a variety of schemes
of case notions I have settled for a combination of Fillmore and Chafe with some
influence from Walter Cook, Halliday, and John Anderson; but — quite obviously it
seems to me — sets of further taxonomic notions on about the same level of depth are
needed. I have suggested elsewhere a scheme of *interclausal relations* (Ballard, Con-
rad, and Longacre, 1971a and 1971b; Longacre 1976: 98—164), to cover combina-
tions of predications. I have also elaborated a group of relations, *repartee* (Longacre,
1976: 165—196) to serve as the notional structure of dialogue, and taken over the
rhetoricians' anatomy of *plot* (Longacre, 1972 b) to serve as the notional structure
of narrative discourse. While these various schemata are not well-known, I intend to
present enough of each in the appropriate places to make their use intelligible and to
show their usefulness. It is this realm of notional structures which I cover by the
rubric 'deep structure'. I note, in passing, that no attempt is made here (as in generative
semantics) to reduce all linguistic relations to predicates and their arguments; rather
predication is used in a narrower sense and other sorts of relations are posited.

I assume that the surface structures found in the text are, first of all, specific to
English. Nevertheless, English reflects types of surface structure which are not un-
common around the world. As the organizing principle of surface structure I accept
hierarchy with the following levels in English and in many languages: morpheme,

stem, word, phrase, clause, sentence, paragraph, discourse. Stem and word are levels approximately correlating with the notions of derivation and inflection. Phrases are surface structure components of clauses — which are units of surface structure predication. Sentences, aside from the necessary notion of simple sentence, are combinations of clauses much as in the statement calculus of formal logic. Sentences and paragraphs typically encode deep structure relations which may roughly be subsumed as an enriched and more detailed statement calculus. As surface units, sentences are more compact and 'packaged' in their treatment of content while paragraphs permit a more diffused and seriatim treatment. Surface structure dialogue paragraphs typically encode repartee. Discourse encodes plot and similar relations.

The informing framework here is tagmemics — that variety of generative grammar with special interest in surface structure. Contemporary tagmemics (cf. Pike's contribution in this volume) is, however, increasingly interested in notional or semantic categories.

The general order of treatment is: predications (case frames) followed by attention to the surface structure clause; then the deep and surface structure of the sentence, the paragraph, and the whole discourse. Notice that here, as elsewhere, contemporary tagmemics takes the paragraph to be a surface structure linguistic unit, not merely a unit of content organization.

1. Predications (case frames). The first sentence of Thurber's discourse contains a network of predications only a few of which emerge as surface structure clauses: 'An arrogant gray parrot and his arrogant mate listened, one African afternoon, in disdain and derision, to the lovemaking of a lover and his lass, who happened to be hippopotamuses.' I will identify predicates and their case frames in this sentence and then proceed from this sentence — as a point of departure — through the balance of the discourse.

1.1 The word 'arrogant', which occurs twice, belongs to the set of surface structure adjectives. As a deep structure predicate ('the parrot was arrogant') it belongs to a case frame which we may call *emotive* or more narrowly, *state emotive*. More words and phrases in the same semantic class, which occur in the same text are, 'be in one's right mind (= sane)', 'happily (= they were happy as they . . . . .)', 'secure (as in the phrase 'the security of the jungle', i.e., the inhabitants of the jungle are secure)', 'shameless' in 'shameless pair', i.e., 'the hippos did not have shame', 'surprised', and 'shocked'. The case frame here is as follows:

CF (1) [S-experiential] E

where S = state and E = experiencer, the animate being whose nervous system registers the emotion in question.

1.2 'Gray' in 'arrogant gray parrot' is a rather different sort of predicate ('The parrot was gray'); it is *state*, but not emotive state. Actually the latter are much more important to the structure of this discourse than are state verbs of the sort exemplified by the word 'gray'. As a whole, state verbs such as 'gray' come in only marginally to the structure of this discourse; cf., however, 'water-logged' in 'waterlogged

basketballs', 'young' in 'lover and his lass were young', 'enormous' as in the phrase 'enormous creatures', 'icy' in 'icy streets' and 'overturned' in 'overturned moving vans'. The case frame here is very simple:

CF (2) [S] P

where P = patient. Items characterized by the state predication are not necessarily animate. They are, whether animate or inanimate, nouns in the patient role rather than nouns in the experiencer role. The patient here is simply the entity described or characterized by the state predication. The particular lexical item 'gray' is not as a whole important in this text, except that it gives us a proper name 'Mrs. Gray' and 'Gray' for the pair of parrots later on in the text.

1.3 We are told that the second parrot is the mate of the first parrot, 'his arrogant mate'. This involves a covert predication 'parrot has mate'. Possessive predications of this sort are marginal to the structure of the text. The case frame here is:

CF (3) [S-benefactive] G P

where G = goal, and P = patient. The feature 'benefactive' in the predicate charac- terizes predicates of *possession* (as here) as well as predicates of *acquisition* (acquire, obtain, find) and *transfer* (give, receive, sell, buy). All three sorts of predicates and the case frames in which they feature may have a goal to indicate possessor, acquirer, receiver, buyer, etc. Source, which occurs with predicates of transfer, indicates giver, seller, etc. Path, which may occur with all three sets of verbs, indicates the tempo- rary owner or acquirer, as in 'Dick has a book for you' — where 'Dick' is path, 'book' is patient, and 'you' is goal. While Chafe (1970) does not use source, path, and goal, and Fillmore's (1971) use of these cases is sparing, I use them here — in case frames 3, 4, 5, 6, 7, and 11 — on a rather broad front. At this point my treatment of case bears a certain broad resemblance to Anderson's (1971) 'localistic theory of case'.

1.4 The verb 'listen' at the end of the first stretch of the sentence is a rather signifi- cant verb. It is not simply a verb of sensation like 'hear' or 'see', but it implies con- scious activity on the part of the listener. I give verbs characterized by this case frame the label *attention:*

$$\text{CF (4)} \quad \begin{bmatrix} \text{A-experiential} \\ \text{directed} \\ \text{completable} \end{bmatrix} \quad \text{A/E (R) S}$$

i.e., action-experiential directed predication with a covalent noun as both agent and experiencer, with a (usually) covert range noun, and with a source noun. Here we are told that the parrots (agent-experiencer) listen to the lovemaking, i.e. sounds (range) made by the hippos (source). Range here equals a noun used to specify more narrowly the meaning of a verb. The most generic range noun with 'listen' is 'sound'. There do not appear to be many verbs of this case frame in the balance of the text. 'Oblivious' a bit further down seems to be the opposite of 'listen to'. It

could, however, be a denial of a simple verb of sensation such as 'hear' rather than a denial of a verb of the attention class such as 'listen'. There's also the verb 'investigate' which occurs in 'African Bureau of Investigation', meaning 'someone in Africa is investigating something', which also is of this class.

1.5 The phrase 'one African afternoon' tells us that all this happened in Africa, and gives us roughly the time of day. More about this later.

1.6 Of considerable importance is the occurrence of the words 'disdain' and 'derision'. These words, nouns in the surface structure, are nominalizations of deep structure predications which could be paraphrased as 'the parrots disdained the hippopotami' and 'the parrots derided the hippopotami'. 'Disdain' could be considered to be simply a verb of attitude or a verb of speech, or both, i.e., it may refer to attitude or to verbal activity or to an attitude which leads to verbal activity. I think the context in this text is decisive that here verbal activity is included. On the other hand, this is not a simple verb of speech such as 'John said to Mary', 'John spoke to Mary', or 'the mother told a story to her child'. Rather here the emphasis is that things of a certain quality, i.e., negative, neutral, or positive, are said by someone about somebody. The desire is not so much to communicate, as to evaluate or to degrade someone.

I suggest that these verbs are *evaluation* verbs and that their case frame is:

$$\text{CF (5)} \begin{bmatrix} \text{A-experiential} \\ \text{directed} \end{bmatrix} \text{A E/G}$$

i.e., an action of the experiential variety which is directed at animate beings who are also experiencers. Notice that this case frame has a certain similarity to the attention case frame (CF4) but does not have the derivative feature completable (with its accompanying range noun) and has instead of source a *goal*. In general, while the patient is that suffering a change of state or location, the goal is simply that towards which the verb is directed. To this class of predicates also belong certain verbs found later on in the text, i.e., 'scorn' in 'scornful comments' (in which it is implied that parrots or at least various neighbors of the hippos scorned them), 'gossip' in 'parrots and neighbors gossiped about the hippos' and finally at the very end of the text, 'hippos criticized parrots' and 'parrots maligned hippos'. It is of considerable interest that the verbs of the evaluation class largely are nominalizations at the beginning of the text and emerge only as full-fledged verbs toward the end of the discourse.

1.7 Just as we have verbs that involve a negative evaluation built into them lexically, so there are verbs that involve positive evaluation. To this category possibly belong the references to 'lovemaking' found in this text. Thus, to revert to the first sentence of the text, 'lovemaking' here refers not to physical activity as such, but to a type of discourse accompanied by a certain amount of physical activity as well. So: 'lover makes love to his lass' and 'lass makes love to her lover'. Or: 'hippopotami make love to each other'. Since the emphasis is on verbal activity it appears that the meaning is 'hippopotami court each other'. This again would appear to be basically a case frame of the evaluation class, but is worked up into a surface structure nominal-

ization 'lovemaking'. Lovemaking in this sense is also referred to in the word 'court-ship' later on in the discourse, as well as by the phrase 'give-and-take'.

1.8 Another verb of the same class in this discourse appears to be neutral, i.e., the verb 'describe', 'the parrots get on the phone in order to describe the hippopotami to their neighbors'. The context tells us, however, that their description is anything but a neutral description.

1.9 'Lover' in the surface structure of this discourse is of course an agentive nominal-ization of the verb 'love' which here seems to refer not to verbal (or sexual activity) primarily, but to the emotion commonly expressed by that verb. We have here the case frame:

$$\text{CF (6)} \quad \begin{bmatrix} \text{S-experiential} \\ \text{directed} \end{bmatrix} \text{E G}$$

i.e., state-experiential directed verbs with nouns in the roles of experiencer and goal. In the first sentence of the text we have in effect, the propositions: 'male hippo loves female hippo'; and 'male hippo equals lover'; and 'female hippo equals lass'. Various paraphrases of love occur in this text such as 'entertain affection for', 'see in (someone)' , and the nominalized form 'her inamoratus' (which is a nominaliza-tion of 'he loves her'). A further verb of this same class is 'believe' (towards the beginning of the text) and the similar adjective 'incredible' (at the end of the text) reflecting the deep structure predication 'people can't believe something'.

1.10 It is evident that most of the sets of predicates that figure prominently in the structure of this discourse emerge in its first sentence. I suggest that possibly the most important set of predicates in the structure of this text is the one beginning with 'disdain' and 'deride'. Here, as we have mentioned, we have a case frame which involves an agent and an experiencer-goal; and which involves predicates which ex-press either a negative, a neutral, or a positive evaluation. We shall see that there are no genuinely neutral evaluations in this text even though the verb 'describe', which is of itself neutral, is used; the 'description' is decidedly negative. Verbs of this class with negative evaluation occur from beginning to end of the text and figure very prominently within it. We note these in varied surface structure forms, i.e., noun, adjective, and verb, in such expressions as the following: 'disdain', 'derision', 'scorn-ful', 'sharp-tongued (= critical)', 'gossip', 'mocking', 'criticize', 'malign'. Evaluation verbs with positive evaluation are hinted at in the surface structure terminology: 'make love', 'court', 'exchange words of endearment'. 'Describe' as we have said should be a neutral word but is not used neutrally in this context.

1.11 Several other classes of verbs are important to the structure of the text. Verbs of *speech* proper — as opposed to evaluation — occur. In most cases such verbs fig-ure in the quotation formulas of quotation sentences (cf. 3.2). As such they are verbs of speech in which the case frame occurs with only the agent/source expressed.

The full case frame is:

CF (7)
$$\begin{bmatrix} \text{AP-experiential} \\ \text{directed} \\ \text{completable} \end{bmatrix} \text{A/S E R}$$

i.e., action process (in that 'say' = 'cause to hear') of the experiential variety which is both directed and completable and which is accompanied by a covalent noun as agent and source and by nouns as experiencer and range. The full case frame is seen in the reference to 'The tender things they said to each other' — where 'each other' is the experiencer and 'tender things' is range.

While the verb 'say' usually — except in quotation — requires a range noun ('a word', 'a few words', 'something'), other speech nouns are freely used with and without range:

'Tell me (something)'
'Recite (a poem), please'
'John preached (a sermon) this morning'
'Harriet sang (a song) last night'

1.12 Verbs of *bodily activity* — often with onomatopoeic names — figure prominently in the text. These have the case frame:

CF (8)
$$\begin{bmatrix} \text{A} \\ \text{completable} \end{bmatrix} \text{A R}$$

i.e., a completable action involving nouns in the roles of agent and range: 'hippos snorted', 'hippos snaffled', 'hippos bumbled', 'hippos romped', 'parrots squawk', 'people laugh', 'the world laughs (in the moral at the end)'. That these verbs may take range is evident for most of them. We can imagine: 'the hippos snorted a great snort', 'the hippos romped on a wild romp', etc., 'the parrots squawked a great squawk', 'people can laugh a great laugh'. Of the meaning of 'snaffle' we are somewhat uncertain. It is, as we have said, a word of onomatopoeic origin which is used as much for phonological effect as for any other reason in this text (see last section).

Other verbs of bodily activity not found here typically take range: 'John ran (a race/the 100 yard dash)'. 'The children played (a game/ring-around-the-rosie)'.

1.13 A few verbs of *impingement* figure in the first part of the text: 'bump around', 'push', and 'live with'. 'They bump each other around', 'they push each other around', 'they pull each other around', and 'A lives with B'. The case frame here is:

CF (9)
$$\begin{bmatrix} \text{A-directed} \\ \text{(instrument)} \end{bmatrix} \text{A E (I)}$$

i.e., a directed action which may or may not be instrumental and which involves nouns in the roles of agent and experiencer and may also involve a noun in the role of instrument. These verbs refer to the activities of the hippos.

1.14 There are also a few *affective* verbs in this discourse. Affective verbs have the following case frame:

$$\text{CF (10)} \begin{bmatrix} \text{AP-experiential} \\ \text{(instrument)} \end{bmatrix} \text{A E (I)}$$

i.e., action process of the experiential variety with an agent and experiencer and an optional instrument. This case frame is manifested in this text in expressions 'have charm', 'have appeal', and 'have sex appeal'. These various verbal expressions could be paraphrased as 'female attracts male' (with a note that an overturned bath-tub probably would not attract anybody) and 'hippos do not have appeal' (no more than a fruit steamer would have appeal) and the doubtful proposition as to whether or not parrots have sex appeal for each other, i.e., whether parrots attract each other sexually or not.

1.15 A few verbs of *sensation* occur in the text. 'See' as used seems to refer to 'understand' ('I don't see . . .') and is very similar to the word 'comprehend' which also occurs here. Probably both verbs used in this sense are of the same deep structure as sensation. 'Hear' in the sense of 'overhear' also occurs toward the end of the text where the hippos hear the Grays. The case frame here is:

$$\text{CF (11)} \begin{bmatrix} \text{P-experiential} \\ \text{directed} \\ \text{completable} \end{bmatrix} \text{E (R) S}$$

i.e., a process-experiential directed completable predication with nouns in the roles of experiencer, range, and source. The range noun is often covert. Thus we can say 'John heard an owl' or 'John heard the sound of an owl'. The owl is, in either case, the source of the sound.

1.16 Other case frames of less importance occur in this text, e.g., a few *process* verbs as in the predication 'flowers bud', 'green things open', and 'hippos should have fossilized' and 'hippos fall asleep'. In most cases these are marginal to the structure of the text. The case frame is:

$$\text{CF (12)} \begin{bmatrix} \text{P} \\ \text{(relative)} \end{bmatrix} \text{P}$$

i.e., process (which may or may not be qualified as relative as in 'open' where a thing may be relatively more open or relatively more shut) and a patient noun as in 'bud', 'green things', 'hippos' in the above. Other verbs with case frames of even more rare occurrence I bypass here. The case frames presented here, as relevant to this article, are part of a broad system which is not presented here — in that it would run much beyond the immediate needs of the analysis of this text. The full system is presented with some recent modifications in Longacre (1976: 23–97).

1.17 Many predications emerge as surface structure nominalizations in such surface structure units (noun phrases) as the following: 'an arrogant gray parrot', 'his arrogant mate', 'in disdain and derision', 'the lovemaking of a lover and his lass', 'a capsized bathtub', 'waterlogged basketballs', 'scornful comments', 'sharp-tongued neighbors', 'monolithic give-and-take of their courtship', 'flowers in bud', 'green things opening', etc. It is important to the structure of the text (more about this later) that the predications which are more marginal to it do not emerge with overmuch frequency as full-fledged verbs in the surface structure. By suffering nominalization − and thus being 'pushed down' into noun phrases − they do not obstruct the even flow of the text. The author does not even labor at the start of the article to tell us in overt predication that the people in the jungle are critical of each other's lovemaking activities. He simply paints this quickly by the use of a twice-repeated adjective 'arrogant' and the nouns 'disdain' and 'derision'. He does not get around to using verbs to cover the same semantic ground until close to the end of the discourse where 'criticize' and 'malign' are used, or a bit earlier 'gossip about'.

2. Surface structure clause types

Deep structure predication roughly corresponds to the surface structure clause level − with the important and insistent proviso (cf. above) that the deep structure predication need not emerge as a clause type but may, for example, emerge as a nominalization.

2.1 Our text contains a few examples of the English *descriptive clause,* i.e., a clause type with a copulative verb as its predicate and with an adjective as its surface structure attribute:

CT (1) + S: NP + E: (cop) VP + Att: Adj

The five examples of descriptive clauses all occur in the first two sentences of the second (structural) paragraph of the text: 'the lover and his lass were young'; 'they were oblivious of the scornful comments of their sharp-tongued neighbors'; 'the tender things . . . sounded (as) lyric to them (as)'; 'flowers in bud (sound lyric)'; and 'green things opening (sound lyric)'. The last two examples occur in a sentence structure in which the important lexical bit 'sound lyric' is not repeated. The third example from the end includes an indirect object (deep structure experiencer); 'the tender things . . . sounded . . . lyric to them . . .' We have here a subtype of the descriptive clause in which the presence of some verb other than the verb 'to be' − here specifically a verb of sound (implying auditory feedback) − makes possible the use of a surface structure indirect object (deep structure experiencer).

2.2 There also are a few *equative clauses* in our text, i.e., a clause type which has a copulative verb and a surface structure classifier tagmeme (usually called complement in traditional grammar but this latter term has far too wide a meaning and involves too many distinct uses):

CT (2) + S: NP + E: (cop) V + Class: NP

Examples: 'monolithic lovemaking . . . was probably a threat to the security of the jungle'; '(enormous creatures) who should have become decent fossils long ago'. These two equative clauses are found in the same sentence. Notice that the surface structure wording 'was a threat' is paraphrastic for 'threatens' or 'endangers'. Similarly, 'who should have become decent fossils long ago' is paraphrastic for 'fossilize' as a process verb. This is indicative of the way in which various sorts of deep structures may be put into the surface structure of the equative clause in English. A further example occurs which is a rather peculiar variant: 'But it was spring'. This is evidently an ambient predication in its deep structure, i.e., ambient state. 'It' here refers either to the environment in general or to some rather vague subject such as weather or time of the year or something like that. This is an equative clause in that it has a noun rather than an adjective following the copula. It is a variant of the equative clause in which the surface structure subject is restricted to third person singular form 'it', betraying that we have here an ambient predication in the deep structure.

2.3 The text also contains a number of surface structure *transitive clauses* according to the well-known pattern:

CT (3) + S: NP + P_t: VP + O: NP

where P_t = transitive predicate. Several of these have the peculiarity that they involve a paraphrase in their surface structure in which the verbal idea is carried by a noun which follows a verb of rather general meaning such as 'have'. Thus in place of the simple verb 'like' or 'love' we have 'entertain affection for' in which 'entertain' patterns as a transitive predicate and 'affection' as a surface structure object. We also have in the same sentence 'have charm' where 'has no more charm' is equivalent to 'does not attract'. We are told by implication in the following clause (elliptical) 'that a capsized bathtub doesn't have charm either'. In both the full clause and in the ellided clause, the surface structure verb 'has' expounds the transitive predicate while the noun 'charm' expounds the surface structure object. Here, as with 'entertain affection' there is skewing of deep and surface structures. The surface structure verb is almost a lexically meaningless carrier while the content of the deep structure predication is borne by the noun which follows it. We similarly find in this same text 'have appeal' in 'both of them have the appeal of a coastwise fruit steamer with a cargo of waterlogged basketballs' and somewhat more explicitly 'have any sex appeal' in 'that a male gray parrot and a female gray parrot could possibly have any sex appeal'. Here 'have charm', 'have appeal' and 'have sex appeal' are all semantic variants of one underlying predication. The surface structure transitive clause with 'have' is normally used to express possession as in 'have a new fountain pen' or 'have a new car'.

Predicates of cognition and sensation (with the latter used in a transferred metaphorical sense) also occur in transitive clauses in this text in 'I don't see how . . .', 'can you believe that . . .' and 'what in the world can they see in each other'. As already pointed out, 'I don't see' equals 'I don't understand' referring to comprehension rather than to sight (although visual inspection might be the basis of the failure to understand at this point). In the last example 'see in' equals 'be attracted to'.

Most other transitive verbs in transitive clauses in this discourse refer to verbal activity. Thus we have 'calling the A.B.I.'; 'to phone their friends and neighbors';

and 'they called up their friends and neighbors'. In the latter example 'up' is an adverb rather than a close constituent of the verb itself as is witnessed by the fact that the whole thing may permute to the order 'they called their friends and neighbors up'. We also find 'described them in mocking and monstrous metaphors' and 'discussed the incredible fact that a male gray parrot and a female gray parrot could possibly have any sex appeal'. In all these the surface structure is that of the transitive clause with subject, transitive active predicate, and object. The phrase 'in mocking and monstrous metaphors' may possibly be taken as a surface structure locative encoding what is probably a deep structure instrument. Further transitive verbs occur in some of the 'merged sentences' of this text; e.g., 'criticize' and 'malign' toward the end of the text. More about these later.

It also should be noted that there is a rather complex variety of transitive clause in this text which probably should be called something on the order of 'constitutive descriptive clause':

CT (4) + S: NP + P_d: VP + O_1: NP + O_2: NP

where P_d = ditransitive (attributive) predicate. 'He calls her snooky-ookums.' Underlying the second portion of this sentence is an equative structure 'she is (called) snooky-ookums'.

2.4 *Intransitive clauses* bracket the text:

CT (5) + S: NP + P_i: VP

where P_i = intransitive predicate. The intransitive verb 'listen' figures in the first clause of the opening simple sentence of the text (and further down in the body of the discourse: 'Listen to those squawks'. Intransitive verbs 'love' and 'laugh' figure in the Moral at the end of the whole discourse.

Again, however, it would pay us to look somewhat closely at the opening sentence of this text. It is called a simple sentence because it consists of but one independent clause — in this case a surface structure intransitive clause. Such a 'simple sentence' is not necessarily without structural complexity. Thus, while the verb 'listen' is chosen as a main verb, various other predicates of the deep structure surface in other ways. The state predicate 'arrogant' surfaces twice in the main clause as an adjective which modifies each of the two nouns which are conjoined as the surface structure *subject*. 'Disdain' and 'derision' are nominalized and occur in what is probably a surface structure *manner* slot. Emerging not as a surface structure noun but as a gerund whose conjoined subjects are an 'of' adjunct is the deep structure predicate 'to make love' in the phrase: 'to the lovemaking of a lover and his lass'. The whole unit is probably some sort of surface structure *directional* adjunct. Finally, the relative clause 'who happened to be hippopotamuses' closes the construction. Thus, in the surface structures employed here, the verb 'listen' is highlighted and the other verbs are played down. This is fitting in that the text essentially consists of evaluation of overheard conversation. The other predicates are important (i.e., 'arrogant', 'disdain', and 'derision', which tell us the nature of the evaluation), but they are not permitted to take the spotlight. Similarly, the information that the verbal activity is lovemaking

and that the people involved are hippopotami is carefully subordinated to the main
thrust. Much of this background information is encoded in the surface structure
manner and directional adjuncts (peripheral to the nuclear + S + P part of the clause).
We notice in passing here Thurber's penchant for conjoined pairs of nouns: 'an
arrogant gray parrot and his arrogant mate', 'in disdain and derision', 'a lover and his
lass'.

The intransitive clauses at the end of the text also merit further comment. In the
closing Moral the verb 'love' and 'laugh' are featured as verbs of activity. Presumably
another verb 'love' occurs homophonous with this one and meaning 'to love some-
one'. Love in the latter sense as a directed activity is not in focus here. These intransi-
tive clauses are imperative. Imperatives are not common in this text (although
compare the second use of 'listen' above); the use of the imperatives 'laugh' and
'love' here points out that the last sentence is didactic. As such it appends to a text
which is essentially narrative material where indicatives occur rather than imperatives.
Also towards the end of the text there occur intransitive clauses with adjuncts that
are primarily locative/directional: 'retire to their beds', 'gossip about the shameless
pair'. 'About' is primarily locative in force. Here it has a transferred reference to
location/direction in logical space.

2.5 We turn now to a few further intransitive verbs of this text, all of them verbs of
speech. As we said in discussion of the deep structure case frames, this text turns
largely on verbs of attention, evaluation and speech. We note again that verbs of
speech, preeminently the verb 'say', have two functions: (1) In quotation formulas
where it takes no sort of object or complement, as 'said Mrs. Gray', 'exclaimed Mrs.
Gray' and 'said her inamoratus' in this text. Frequently such verbs have an indirect
object expressing the addressee. (2) Use as a verb of speech without explicit quota-
tion but with some indication that certain words or types of words or amount of
words were uttered, such as in the following examples (not found in our corpus):
'he said a few words', 'he didn't speak a word', 'he said his piece', 'he said a great
deal'. Here I would argue that 'word' is to 'say' as 'song' is to 'sing', as 'race' is to
'run', as 'game' is to 'play', and as 'artifact' is to 'make'. I have suggested that in all
these clauses, there is a deep structure range, the purpose of which is to specify fur-
ther in nominal form the content of the predication itself.

But what of the surface structure of such clauses? It is customary to consider such
verbs to be surface structure transitive clauses with surface structure objects such as
'word', 'song', 'race', 'game', and 'artifact' above. The fact remains, however, that as
transitive verbs and transitive clauses these structures are somewhat irregular. There
is something obligatory about the object of a true transitive verb. On the other hand
there is nothing obligatory about the occurrence of such nouns as we have given
above which occur with verbs of cognate meaning semantically. We can say with
equal propriety 'Mary sang' and 'Mary sang two songs'. 'John ran' and 'John ran a
race'. The children played' and 'the children played their games'. We have here, in
brief, an optional 'object' which has the peculiar property of being closely related to
the content of the preceding predicator. I thing that we might very well in these
circumstances distinguish here a further surface structure unit and call it complement,
say that complement may occur in an intransitive clause and that the occurrence of
such complements does not render the clauses in which they occur transitive.

Thurber, in one clause, replaces the verb 'said' with the verb 'exclaimed'. Towards the end of the text he coins two onomatopoeic verbs, 'wuffle (of the male hippopotamus)' and 'gurbled (of the female hippopotamus)', in his further search for variety of surface structure verbs meaning 'say'.

3. Interclausal relations and surface structure sentence types

I do not treat here deep and surface structures on this level in separate sections. Rather, I let the surface structures dictate the outline of the section and describe the various deep structures under the surface structures in which they encode.

3.1 The favored surface structure pattern on the sentence level is the *coordinate sentence.* The coordinate sentence is an open-ended string of sentence bases joined with the conjunction 'and':

$$\text{ST (1)} + \text{Base}_1: \text{Cl/S} \pm [\pm \text{ c. l.:} \textit{ and} + \text{Base}_2: \text{Cl/S}]^n + \text{c. l.:} \textit{ and} + \text{Base}_n: \text{Cl/S}$$

where Cl = clause, S = sentence, c. l. = coordinate link, superscript^n = open-ended repetition and subscript$_n$ last unit in the series. As a surface structure the coordinate sentence is extremely elastic, i.e., it may stretch over a variety of deep structures — just as on the clause level the transitive clause with subject, predicate and object also stretches over a variety of deep structures. Although an indefinite number of bases may occur in the coordinate sentence, the majority of the coordinate sentences found in this discourse are two-base structures. This may possibly reflect a penchant of Thurber's for binary structures — as also seen above in his fondness for conjoined nouns within the clause structure. A four-base coordinate sentence occurs early in the text: 'But it was spring, and the lover and his lass were young, and they were oblivious of the scornful comments of their sharp-tongued neighbors, and they continued to bump each other around in the water, happily pushing and pulling, backing and filling, and snorting and snaffling.' Here the deep structure interclausal relation is conjoining of the *coupling* variety, i.e., predicates from the same semantic domain which are brought together with same or different subjects in a relation which does not consider chronological considerations. Thus we feel that this sentence goes as follows: 'Spring . . . young . . . oblivious . . . continued to bump each other around . . .' or we could paraphrase the text in noting that 'spring', 'youth', 'oblivion' and 'courtship activities' go together.

There is also one three-base coordinate sentence. The three-base coordinate sentence embeds here as second base of a merged sentence the first base of which uses the verb 'decide'. Such merged sentences are properly called telic sentences in that the action of the second base is the purpose or end result of the action of the first base. So there is decision making indicated in the first base and the upshot of the decision is that the Grays decide 'to phone their friends and neighbors and gossip about the shameless pair, and describe them in mocking and monstrous metaphors involving skidding buses on icy streets and overturned moving vans', i.e., they decide to 'phone', 'gossip' and 'describe'. The latter three predicates, along with their related noun phrases constitute an embedded coordinate sentence. Again we

note that the deep structure relationship is conjoining of the coupling variety. 'Phone', 'gossip' and 'describe' are from the same semantic domain. They are all verbs of speech. 'Phone' is possibly the most neutral. 'Gossip' is certainly not neutral. 'Describe' could have been neutral, but its context ('mocking and monstrous metaphors . . .') is anything but neutral. Notice also the complexity of the final base in this embedded coordinate sentence. This is not unusual in that the proper place for complexity in a sentence is its final base if it is to obviate the syntactic impass which could result from excessive length and complexity in an earlier base. We see also in the last base of this sentence, the one turning on the verb 'describe', Thurber's same penchant for lexical couplets: 'mocking and monstrous metaphors', and the further pair, 'skidding buses' and 'overturned moving vans'.

The rest of the coordinate sentences of this text are binary structures with but two bases. The sentence which begins 'To the Grays, however' is an especially interesting structure. As a coordinate sentence it has a preposed sentence topic ('To the Grays') on which we shall see turns largely the whole structure of a paragraph in the discourse at this point. A sentence conjunction 'however' further reinforces this paragraph structure. The two bases of the sentence are: (base one) 'the bumbling romp of the lover and his lass was hard to comprehend and even harder to tolerate' and (as last base) 'and for a time they thought of calling the A.B.I., etc.'. Here while conjoining of the coupling variety may be intended in the deep structure, we suspect rather a deep structure which I label *circumstance* (weakened cause), i.e., 'in that they found the hippos' lovemaking hard to comprehend and harder to tolerate, therefore they thought of calling the A.B.I., wherein the first base is the circumstantial cause of the second base. The logical connection is not featured, however, in the surface structure. No such words as 'because', 'as a result', occur as surface structure clues. On the contrary, the whole is expressed simply in two bases of a coordinate sentence.

In the second main part of the text, further two-base coordinate sentences occur: (1) 'The hippopotamus and the hippopotama were surprised and shocked.' Here, as is common in coordinate sentences with same subject, the subject nouns are not repeated with the second predicate. Again the deep structure is conjoining of the coupling variety. (2) 'They called up their friends and neighbors and discussed the incredible fact that a male gray parrot and a female gray parrot could possibly have any sex appeal.' Again note that in the surface structure the subject is not repeated before the second predicate when the same subject is intended. Here, too, possibly conjoining of the coupling variety is intended in the deep structure, but there may be chronological sequence in that one cannot discuss anything on the phone until one first puts a call through. The deep structure may therefore be *temporal succession*.

Other two-base coordinate sentences occur embedded within other structures. Thus, to return to the sentence beginning 'But it was spring', three coordinate sentences, drastically reduced, embedded, and nominalized occur towards its end. The first of these embedded and nominalized structures is 'happily pushing and pulling'. Here the participles 'pushing and pulling' modify 'they' (subject of the verb 'continue'). 'Push and pull' are coupled predications in the deep structure, from the same semantic domain of physical interaction. Very similar is the next couplet in which 'backing and filling' are coupled. The terms here are nautical terms. 'Back

and fill' is an idiom for rapid tacking in working a sailboat up a narrow channel. The deep structure here is temporal succession; first you back and then you fill. The reference to physical activities of the hippopotami by means of a nautical idiom is quite appropriate (to those who catch it as nautical jargon) and ties in with the reference in a previous sentence to 'coastwise fruit steamers' and even to 'capsized bathtubs'. Such is Thurber's fondness for couplets that he adds on still another pair of predicates, 'snorting and snaffling'. In that 'snort' refers to a type of noise, presumably 'snaffle' also refers to something from the same semantic domain. 'Snaffling' is here a word of onomatopoeic creation coined by Thurber to permit him to further indulge his fondness for coupled predications. At this point style and surface structure run their own way without any supporting deep structure meaning at all. Presumably certain noises are made by the hippopotami as they play in the river and the noises are described by these coupled participles 'snorting and 'snaffling'.

Towards the end of the text there is an involved coordinate sentence embedded within what I have termed elsewhere an equational sentence, i.e., a sentence in which 'it' is preposed and the referent of 'it' is thrown to the rear of the sentence (topicalization). Thus we could have had a sentence: 'Before the hippopotamuses stopped criticizing the Grays and fell asleep and the Grays stopped maligning the hippopotamuses and retired to their beds, was long after midnight.' But not only is there a fondness in English for preposing 'it' and postposing the substance of the 'it' as in the sentence just found, but this reordering also permits us to avoid certain obvious engineering problems in the structure of the sentence occasioned by the great size, length, and complexity of the element which would otherwise occur before 'was' in normal sentence order. This embedded coordinate sentence in turn consists of embedded sentences. Specifically we have as the two main bases of this sentence: (1) 'the hippopotamus stopped criticizing the Grays and fell asleep', and (2) 'the Grays stopped maligning the hippopotamuses and retired to their beds'. In turn each of these bases is itself an embedded coordinate sentence. The two bases of the first embedded sentence are (1) 'The hippopotamuses stopped criticizing the Grays' and (2) 'They fell asleep'; and the two bases of the second embedded coordinate sentence are (1) 'The Grays stopped maligning the hippopotamuses' and (2) 'They retired to their beds'. Again we note how up to the very end of the text, Thurber preserves his stylistic preference for two-base structures.

3.2 Next in frequency to the coordinate sentence in this discourse is the *quotation sentence.* I believe that quotation should be handled not on the clause level but on the sentence level. Superficially, such an example as the following (hypothetical) looks like a single clause: 'The Grays said, 'Hippopotami are disgusting''. It could be argued that 'the Grays' are surface structure subject, 'said' is surface structure transitive predicate and 'hippopotami are disgusting' is surface structure object. But there are several difficulties with such an analysis.

For one thing, there is a clearcut immediate constituent break in all direct quotation sentences so that the so-called subject and predicate line up over against the so-called object. This is not a natural immediate constituent break in the structure of the English clause. I think that we have to assume for English clause structure either a trinary structure of subject, predicate, object, or (if any grouping is to be assumed) predicate and object as a binary grouping over against the subject. Nevertheless, we

find that in a direct quotation sentence the putative subject and predicate form a unit – which I will refer to as a block under the term *quotation formula* – and move around freely within the structure of the sentence. Thus, it is not unusual to find a postposed quotation formula as in the text: '"I would as soon live with a pair of unoiled garden shears", said her inamoratus' and ' "What in the world do they see in each other?" gurbled the female hippopotamus' and ' "Listen to those squawks", wuffled the male hippopotamus'. In these three direct quotation sentences, the quotation formula is postposed. While the order object, verb, subject is not unknown in English, it is not a very common ordering. But to make it even more bizarre, in English as in many languages, the quotation formula may be interlarded within the quote itself, as in such common examples as the following: ' "Please", said Jim's mother, "Don't do that!" ' or ' "On the other hand", said Jane, "It doesn't look too well" '. We have, in effect, several examples of this type of quotation sentence in our text, but this is obscured by the fact that Thurber chooses to punctuate the second part of the quotation as a separate sentence. Thus we have in the third sentence of the text: '"No", said Gray. "I don't see how any male in his right mind could entertain affection for a female that has no more charm than a capsized bathtub." ' And again the sentence: ' "He calls her snooky-ookums", said Mrs. Gray. "Can you believe that?" ' In summary, we are arguing that as clause structures the preceding examples are not plausible. As clause structures they involve a very unnatural grouping of subject and predicate over against object, with subject and predicate even interlarding in the center of the so-called object.

Furthermore, we note that the so-called object itself can be a stretch of considerable complexity. It need not be a sentence, it can be a paragraph or even a discourse. While it is possible to backloop a paragraph into a clause structure, it is probably less awkward to backloop a paragraph into a sentence structure.

I therefore believe that we should speak of direct quotation sentences, not of direct quotation clauses. As to the deep structures involved in the direct quotation sentences, we may call them *reporting* of the *speech* variety. I submit the following surface structure formula for this sentence type:

ST (2) + DQF: Intr. Cl (–complement) + DQuote: S/A/DISC
          Rule: QF may permute with Quote or interlard within its exponent (where
              DQF = direct quote formula and DQuote = direct quote).

3.3 Three examples occur of what can be called the *correlative sentence*. The correlative sentence expresses a bi-conditional implication, as in, e.g., the well-known adage 'As Maine goes, so goes the nation' where it is assumed that as Maine goes, so goes the nation, and as the nation goes, so goes Maine, i.e., the two are assumed to correlate completely as far as to how they'll vote in Presidential elections. We have a rather clear example of this sentence type in the sentence: 'The tender things they said to each other during the monolithic give-and-take of their courtship sounded as lyric to them as flowers in bud or green things opening.' However the second clause is somewhat deleted and telescoped. We can paraphrase this more freely: 'The things they said during their courtship sounded as lyric to them as flowers in bud sound or as green things opening sound.' The second base of this correlative sentence is an embedded alternative sentence turning on the conjunction 'or'. The deep

structure here is the deep structure of *comparison,* i.e., the words they say are
compared to flowers in bud or green things opening. Other examples of the correla-
tive sentence in this text are more deleted and telescoped as in 'a female that has no
more charm than a capsized bathtub', or more fully: 'this female has no more
charm than a capsized bathtub has'. I consider this to be properly construed as a bi-
conditional proposition in that we could turn it around and say, 'a capsized bathub
has no more charm than this female' i.e., each has about the same degree of charm.
Likewise toward the end of the text, the brief quote, 'I would as soon live with a
pair of unoiled garden shears' is short for 'I would as soon live with a pair of
unoiled garden shears as live with her' which again is a correlative sentence with de-
leted second base. To formulate:

ST (3) + $c.m_1$: *as, no more* + Correlative$_1$: Cl + $c.m_2$: *so, as, than*
        + Correlative$_2$: Cl
        Rule: *no more* co-occurs only with *than* (where c.m = correlative marker).

3.4 The moral of the discourse is expounded by an *antithetical sentence* with de-
leted 'but'. Antithetical sentences in English typically turn on the word 'but'. They
are two-based structures as opposed to the coordinate sentence which is a multi-
based structure. The antithetical sentence consists of a thesis and an antithesis and
an antithetical pivot expounded by the word 'but':

ST (4) + Th: Cl/S + a.p: *but* + Anti: Cl/S

In English, however, an antithetical sentence which presents itself to us as some-
thing gnomic or proverbial and whose surface structure involves strict parallelism of
constituent parts may delete the word 'but'. This is what has happened here. We
find no sense of jar in inserting the word 'but' into this sentence, 'Laugh and the
world laughs with you, but love and you love alone'. Nevertheless, here as in many
other proverbs of this sort, the word 'but' is omitted. Compare: 'Man proposes, God
disposes', and the (outmoded) proverb 'Old men for counsel, young men for war'.
    Antithetical sentences frequently encode a deep structure which can be called
contrast, i.e., predications with two points in opposition with each other. Typically
this turns on a pair of antonyms. Here 'laugh' and 'love' are opposed as antonyms.
'Laugh' in the context of this discourse is not laughter for the sake of enjoyment,
but carries overtones of disdain, derision, and scorn so that in this discourse 'laugh'
approximates an antonym of the word 'love'. It could be paraphrased, 'scorn and
the world scorns with you, love and you love alone', or even 'hate and the world
hates with you, love and you love alone'. Not only is 'laugh' opposed to 'love', but
'the world laughs with you' is opposed to 'loving alone'. I think we have here an in-
stance of surface structure being so powerful as to impose itself on the meaning of
component lexical items within it. The surface structure of 'laugh and the world
laughs with you, love and you love alone', suggests to us opposition. So strong is
this suggestion that although 'laugh' and 'love' do not normally pattern as antonyms,
the surface structure gives us the clue that we should consider 'laugh' and 'love' as
antonyms in the structure of this discourse. And we have of course been prepared
for this by a long string of lexical items from the very onset of the discourse: arro-

gant, disdain, derision, scornful comments, sharp-tongued neighbors, mocking and monstrous metaphors, criticize, and malign.

3.5 Any one clause unit is by definition a simple sentence as well. I have not bothered to point out the incidence of such units within the text. I have pointed out that the text begins with a rather complex example of simple sentence as its opening sentence. I will not say more about that here. A further interesting example of a simple sentence in this text is the one which has suffered massive deletion: 'capsized bathtub, indeed'. This is a back reference to the previous sentence which ended 'a female that has no more charm than a capsized bathtub'. Here 'capsized bathtub' is all that is left of the clause from which 'has no more charm' has been deleted. 'Indeed', the sentence adverb or exclamation, remains as a vestige of the sentence periphery while 'capsized bathtub' is all that is left of the sentence nucleus.

3.6 There is a further set of sentences found in this text (as in any normal English text) which I call *merged sentences*. The total system of English includes at least ten merged sentence types. I quote here a previous article of mine regarding the merged sentence (Longacre, 1970: 802):

> 'Thus, phonologically the Merged Sentences drop the medial semi-final juncture and give the whole sentence a phonological unity like that found in a single clause. Grammatically, the Merged Sentences require that the second sentence base not contain a finite verb phrase, but rather infinitive or participial phrases, or just verb word structures. Furthermore, some of these Merged Sentences contain a substantive phrase that is syntactically in double function, e.g., object of the verb in the first sentence base but subject of the verb in the second sentence base. Lexically, the Merged Sentences are specialized in that the set of verbs which may expound the predicate of the clause which expounds the first sentence base is a distinct and separate set in every type of Merged Sentence. Thus, phonologically, grammatically, and lexically, Merged Sentences contrast with the sentence types which constitute the system already described.'

Three examples occur of the *aspectual merged sentence* (marking deep structure *phasal* inflection). In the aspectual merged sentence, V_1 qualifies V_2 in respect to inception, continuance, or termination. V_2 may be a minimal active or passive infinitive phrase, or a minimal active or passive participial phrase. Thus: 'they continued to bump each other around in the water . . .' is an aspectual merged sentence in which the first base has 'continue', the second base has the infinitive form of the verb 'bump'. Towards the end of the text, two more examples of aspectual merged sentences occur involving the verb 'stop' in the first base: 'the Grays stopped maligning the hippopotamuses' and 'the hippopotamuses stopped criticizing the Grays'. The second base has a participle instead of an infinitive, and the first base is characterized by the verb 'stop' instead of by the verb 'continue' as in the previous example.

An example of the *telic merged sentence* is found in the sentence beginning, 'but they decided instead to phone their friends . . .' The word 'instead' here is a sequence signal relating to the placement of this sentence within its paragraph, and is not relevant to the internal analysis of this sentence. We focus then on the structure 'they decided to phone their friends'. In the telic merged sentence, V_1 expresses verbal or mental activity relative to V_2. V_2 is an active or passive infinitive phrase or a verb ending in -ing. Typical verbs of the first base of a telic merged sentence are

such verbs as the following: *agree, ask, decide, expect, intend, advise, warn.* There are two subtypes of this merged sentence. In one subtype, that in which the verb 'decide' may occur in the first base, the actors of the two clauses are identical. In the second subtype, the actors of the two clauses are not identical (cf. 'they advised me to go').

As was mentioned before, the example of this merged sentence in our present text embeds within its second base a coordinate sentence involving the verbs 'phone', 'gossip' and 'describe'. This underscores the convenience of having 'merged sentences' as a variety of sentence structure and not as a variety of clause structure (cf. Lanier for Mezquital Otomí where such units are described as 'complex clauses') in that we find not only merged sentences embedding within other varieties of sentence, but other varieties of sentences embedding within the merged sentence as well. We do not have to assume backlooping but simply recursion of sentence within sentence if the merged sentences are recognized as simply a variety of sentence structure.

One example occurs in this text of a *sensation merged sentence:* 'To hear the Grays exchanging terms of endearment'. This sensation merged sentence is embedded within still another merged sentence ('They were shocked and surprised to hear . . .'). In the sensation merged sentence, V_1 reports V_2 (cf. indirect quote). V_2 is drastically reduced in structure to either the simple verb without inflection or the -ing form of the verb or the -N (-en) form of the verb. Verbs of sensation and recollection are used here: *see, hear, feel, catch, observe, remember, recollect.* This merged sentence requires different subjects in the two clauses; therefore the object of the first verb is subject of the second verb as in the example under consideration.

Merged sentences in various languages often encode relations that are not those of the statement (or propositional) calculus such as we have been considering (coupling, contrast, temporal succession, etc.) but reflect matters of mode and aspect which belong to a different set of relations (deep structure inflection). Thus, e.g., while many languages have verb affixes to indicate inception, continuance, and termination, English typically expresses this in the aspectual merged sentence as we have just illustrated.

4. Deep and surface structure of paragraph and discourse

This discourse consists of three parts, Episode 1, expounded by *cyclic antithetical paragraph;* Episode 2, expounded by *dialogue paragraph;* and Moral, expounded by *antithetical sentence.* We look now at the structure of the paragraphs which expound the episodes. Again we will let the surface structures dictate the outline and mention what deep structures are encoded under each surface structure.

4.1 The time setting of the first main paragraph (cyclic antithetical) is given as 'one African afternoon'. This crucial bit of information is not preposed to the whole paragraph in a separate sentence (such as 'It was afternoon in the African jungle'), nor does it constitute the first stretch of the first sentence of that paragraph; rather, embedded well within the first sentence of the first paragraph, we are told that this event takes place 'one African afternoon'. The temporal expression also gives the lo-

cale. Here the combined locative-temporal expression is a surface structure package deal, i.e., a surface structure temporal phrase. Although buried within the first sentence of the first embedded paragraph of the discourse, this locative-temporal reference is basic to the entire discourse. The locale, by this phrase, is established as in Africa, although we might guess that this was true by the reference to hippopotamuses later on down. Again, this surface structure temporal expression establishes the time of the first episode and the terminus a quo for the time succession of the whole discourse. This initial time horizon is valid until we reach the second main paragraph (which expounds the second episode) where we are told that the action moves on to 'late in the evening' — with a final temporal reference to 'long after midnight' towards the end of the discourse.

An antithetical paragraph expresses opposition in its surface structure; it is similar in many ways to an antithetical sentence but is a more diffuse treatment. A cyclic antithetical paragraph has not only the customary two parts which can be labeled thesis and antithesis, but a third part which is thesis', i.e., a reiteration and elaboration of the thesis. The thesis in this paragraph is expounded by a dialogue paragraph (unresolved complex dialogue), the antithesis is expounded by a coordinate (expository) paragraph, while the thesis' is expounded by an antithetical paragraph. These sections of the cyclic antithetical paragraph are marked off clearly in the text by use of conjunctions. Thus, the onset of the antithesis is marked by the word 'but' in the sentence beginning 'But it was spring . . .' Here, although the word 'but' is a part phonologically and grammatically of the sentence which it initiates, it serves to articulate a structure on the paragraph level. That is, it goes with everything down through the sentence which ends 'green things opening'. The thesis' is introduced by the word 'however' which occurs in the sentence beginning, 'To the Grays, however, . . .' The three sections of paragraph are also articulated by means of nominal-pronominal chains and anaphora. Thus, the embedded paragraph which expounds thesis begins with a reference to 'an arrogant gray parrot and his arrogant mate'. These are hereafter referred to in the course of this embedded paragraph as 'Mrs. Gray' and 'Gray'. Within the short two-sentence paragraph which expounds antithesis, the hippopotamuses, not the parrots, are the participants in focus. They are referred to at the onset of the embedded paragraph as 'the lover and his lass' and thereafter simply as 'they' in the balance of the paragraph. In the embedded paragraph which expounds thesis', the Grays are again the participants in focus. They are introduced at the onset of the embedded paragraph by the term 'the Grays'. Hereafter in the balance of the embedded paragraph they are referred to simply as 'they'. Thus this paragraph has a basic structure of theme, counter-theme, recapitulation, which is common not only to literature, but to musical composition as well. This type of structure is especially common in Australian aborigines languages studied in a project which the writer directed (Sayers, 1973).

The deep structure of this cyclic antithetical paragraph is *expectancy reversal.* This explains the use of 'but' in the surface structure in the line 'But it was spring', i.e., one would thing in view of all the comments being made by the parrots, that the spirits of the lover and his lass would be dampened and their lovemaking spoiled, but this is not what happened. On the contrary, it was spring and they were young and they were oblivious, etc. The thesis' may be regarded as related to the thesis as *amplification paraphrase.* Paraphrase is involved in that while the criticisms

of the Grays given in the embedded paragraph that constitutes thesis' are not repeat-
ed verbatim in the embedded paragraph that constitutes thesis, still the latter re-
marks are in the same vein. Thus, if the hippopotami are compared to 'capsized
bathtubs', or 'a coastwise fruit steamer with a cargo of waterlogged basketballs' in
the thesis, the 'mocking and monstrous metaphors involving skidding buses on icy
streets and overturned moving vans' are not essentially different comparisons in the
thesis'. The particular variety of paraphrase is amplification paraphrase in that new
information is introduced in the thesis', viz. the thought of calling the A.B.I. on the
grounds that such people 'should have become decent fossils long ago' and are 'a
threat to the security of the jungle'.

4.2 I look now in detail at the structure of the dialogue paragraph that expounds
thesis within the cyclic antithetical paragraph described above. In surface structure
this is an unresolved complex dialogue in that it involves an initiating utterance and
two continuing utterances without a resolving utterance. Mrs. Gray's speech is the
initiating utterance: 'He calls her snooky-ookums, can you believe that?' Mr. Gray's
speech, and the ensuing speech of Mrs. Gray are continuing utterances. The dia-
logue does not reach resolution of the sort that it might have reached if one of the
two had stopped in his tirade of criticism to evaluate the remark of the other with-
out immediately adding on a remark of his own. As previously noted in the section
on sentences, we note that the three parts of the dialogue are given in the surface
structure as direct quotation sentences.

In looking at the deep structure we find that Mrs. Gray begins the dialogue with
a *remark* couched in the form of a rhetorical question, 'He calls her snooky-ookums,
can you believe that?' This is not a question for information, but is simply a covert
statement. Probably it could be paraphrased somewhat as follows: 'It is incredible
that he calls her snooky-ookums'. Mr. Gray begins with an *evaluation* of Mrs. Gray's
remark. Since her remark was couched in the form of a question, 'Can you believe
that?', he replies, 'No', i.e., 'I could never believe this'. What this amounts to is an
evaluation of 'true' for the previous allegation that 'it is incredible that he calls her
snooky-ookums'. This evaluation of Gray is immediately followed by his own re-
mark, 'I don't see how any male in his right mind could entertain affection for a fe-
male that has no more charm than a capsized bathtub'. Mrs. Gray comes back into
the game with an evaluation of her husband's remark, immediately followed by a
further remark of her own. Her evaluation is, 'Capsized bathtub, indeed'. This is
apparently a way of saying that she grudges the evaluation of 'true' to her husband's
remark, i.e., she doubts if she could concur that the female hippopotamus has even
the charm of a capsized bathtub. She goes on to make her own remark, 'Both of
them have the appeal of a coastwise fruit steamer with a cargo of waterlogged bas-
ketballs'. Since an evaluation is a resolving utterance in the deep structure, we have
here a compound dialogue in the deep structure with remark, evaluation, remark,
evaluation, remark. The final remark is not evaluated by Mr. Gray.

It is evident here that the deep and surface structures are quite out of phase. We
have three units in the surface structure (defined by speaker change and quotation
sentences) but five units in the deep structure. Thus Mrs. Gray's initiating utterance
and the first part of Mr. Gray's continuing utterance, constitute a remark-evaluation
unit in the deep structure, while the second part of Mr. Gray's continuing utterance,

and the first part of Mrs. Gray's continuing utterance constitute a similar unit, while in turn the second part of Mrs. Gray's continuing utterance constitutes a remark to which there is no matching evaluation from Mr. Gray. For this reason we consider the deep structure to be an unresolved compound dialogue (following Klammer, 1971). See the accompanying diagram to show the out of phaseness of deep and surface structure at this point.

It is also interesting to note that this dialogue in term of the classification found in transactional analysis is a parent-parent dialogue (Harris, 1967). There is no real exchange of information in such a parent-parent dialogue; rather there is simply mutual voicing of negative sentiments. Both the Grays are talking 'down' in reference to the object of their discourse.

I have not accounted as yet for the first sentence of the entire discourse. It appears that the first sentence belongs to the embedded dialogue paragraph which expounds the thesis of the larger paragraph unit. As first sentence of this embedded dialogue paragraph, it constitutes a lead-in to the dialogue proper and preview of the substance of the dialogue. I have previously entitled such sections (usually one sentence) in narrative and dialogue paragraphs 'setting'; they might be termed lead-in for dialogue paragraphs in particular. Notice how much we are told as to the tone of the dialogue which is to follow. We are told that the parrots are arrogant, and that they are listening in disdain and derision to the lovemaking of a lover and his lass.

Surface	Deep
Initiating Utterance	Remark
Continuing Utterance	Evaluation
	Remark
Continuing Utterance	Evaluation
	Remark

Diagram I

4.3 I look now at the structure of the coordinate (expository) paragraph which expounds antithesis of the cyclic antithetical paragraph. This paragraph consists of but

two sentences. It is clear that the second sentence is not a paraphrase of the first sentence. The first sentence (a run-on coordinate sentence) tells us various things: it was spring, the lover and his lass were young, they were oblivious of the surrounding negative comments, and they continued their romp in the water. The second sentence tells us that the things that they said to each other during their courtship sounded beautifully lyric to them. The two sentences stand in a coordinate relation to each other in the surface structure (deep structure coupling) even as the parts of the first sentence are coordinated with each other within that surface structure unit on the sentence level. It is of further interest to note that the reference to spring in the beginning of the first sentence of this paragraph does not give a fresh time horizon which is related in temporal succession to that given in the first sentence ('one African afternoon'); rather the reference to spring is simply by way of association of items in the same semantic domain: spring, young love, oblivion, and courtship activity.

4.4 The thesis' of the first main paragraph is, as we have said, expounded by an embedded antithetical paragraph. The antithetical paragraph is, as is evident from this and other examples, a self-embedding unit, i.e. either member of the antithetical paragraph may itself be an antithetical paragraph. It is more feasible, however, to make the final member of an antithetical paragraph (whether simple or cyclic) an embedded antithetical paragraph than to embed within the non-final member. There is less chance of confusing the antithesis of the embedded paragraph with the antithesis of the embedding paragraph, if the embedded paragraph comes final within the larger unit. Here within the embedded antithetical paragraph, the occurrence of the word 'but' and the word 'instead' in 'But they decided instead . . .' signals that we are in the antithesis of the embedded paragraph. The thesis of this embedded paragraph is expounded by a coordinate sentence. This sentence begins in a very explicit way with a sentence topic 'To the Grays' and a sentence conjunction 'however'. Both are clues that we are here beginning an important section of the main paragraph itself, i.e., of the cyclic antithetical paragraph. While these two pieces are part of the sentence where they occur phonologically and grammatically, their function is seen in terms of the larger unit. What this coordinate sentence tells us is that it was difficult for the Grays to comprehend or sympathize with the romp of the hippopotamuses, and they thought for a while of calling the African Bureau of Investigation. The conjoining reflects deep structure coupling of predicates in the same semantic domain, i.e., suspicion and calling in the investigating (and regulative) arm of society.

On first inspection it would appear that the antithesis of the embedded paragraph (the string beginning 'But they decided instead . . .') actually refers only to the second half of the preceding coordinate sentence. The sense, one might argue, is: 'although they thought of calling the A.B.I., they decided to phone their neighbors and gossip instead'. Actually, however, the anatomy of *frustration* (or expectancy reversal) is four-fold: (a) an expectancy chain (here: Grays found it hard to comprehend and tolerate . . . Grays thought of calling the A.B.I. . . . . Grays then called the A.B.I.); (b) a blocking circumstance (here not mentioned; could have been the Gray's better judgment or fear that the complaint would not be taken seriously, or *preference* for gossip to legal action); (c) reversal of an expected member in the sequence

(here: Grays did *not* call the A.B.I.); and (d) surrogate action (here: they phoned their neighbors, etc., *instead*). The first two members of the expectancy chain (also related as deep structure coupling) are grouped into a surface structure coordinate sentence. Surrogate action is expressed in a second sentence beginning with 'but' and marked with 'instead' — a regular way of indicating surrogate actions in English. Thus, as seen in the accompanying diagram, deep and surface structures are here in phase with each other.

SS   DS

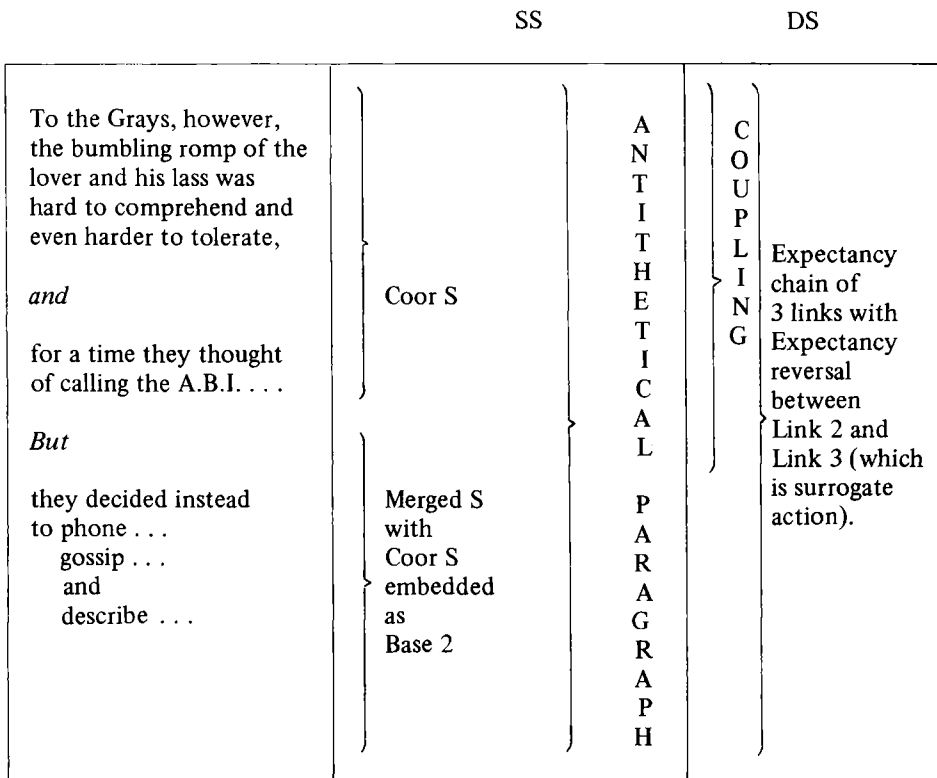| To the Grays, however, the bumbling romp of the lover and his lass was hard to comprehend and even harder to tolerate, | | A N T I T H E T I C A L | | C O U P L I N G | Expectancy chain of 3 links with Expectancy reversal between Link 2 and Link 3 (which is surrogate action). |
and	Coor S				
for a time they thought of calling the A.B.I. . . .					
But					
they decided instead to phone . . . gossip . . . and describe . . .	Merged S with Coor S embedded as Base 2	P A R A G R A P H			

Diagram II

4.5 The second episode of this discourse is expounded by a dialogue paragraph on a new time horizon, i.e., 'late that evening'. Like the dialogue paragraph which constitutes part of the first main paragraph, this dialogue paragraph also has a lead-in: 'Late that evening, the hippopotamus and the hippopotama were surprised and shocked to hear the Grays exchanging terms of endearment'. This lead-in tells us what we can expect as to the attitude of the hippopotamus and hippopotama as they hear the Grays and anticipates the content of what the former will be saying about the latter. Turning to the dialogue proper, we find that the dialogue of the hippopotami is somewhat less involved than that of the parrots (in the above paragraph).

In surface structure, this second dialogue consists of an initiating utterance and two continuing utterances, as does the preceding. The deep structure is, however, simpler and is in one to one correspondence with the surface structure (while deep and surface structures are out of phase in the preceding dialogue). The initiating utterance of the male hippopotamus is: 'Listen to those squawks'. This is a surface structure imperative clause (in a simple sentence), but is scarcely a serious command to stop and listen to the sounds being made by the parrots. In reality, it is a deep structure remark equivalent to saying that the squawks being made by the parrots are very unpleasant. The continuing utterance, by the female hippopotamus, does not contain an evaluation of the previous remark of her husband (cf. presence of such an evaluation in the dialogue in the previous paragraph). Rather the female hippopotamus retorts, 'What in the world can they see in each other?' Here again the surface structure belies the deep structure, i.e., this is given as a surface structure interrogative clause in a simple sentence, but the question does not solicit information. Rather here the surface structure encodes a deep structure *counter-remark* which is equivalent to 'it is irrational to believe that they could be attractive to each other'. Her husband in turn retorts with his own counter-remark as his continuing utterance: 'I would as soon live with a pair of unoiled garden shears'. Again, this statement is not to be taken in its surface value. Presumably the male hippopotamus would not enjoy living either with a female parrot or with a pair of unoiled garden shears. He is simply comparing the two. The statement is elliptical: 'I would as soon live with a pair of unoiled garden shears as live with a female parrot'. As we have said, this dialogue is in phase throughout. It is a complex unresolved dialogue, i.e., there is no resolving utterance. It consists of an initiating utterance which is a deep structure remark and then two continuing utterances, both of which are deep structure counter-remarks. Thus, it has three discrete surface structure units each of which corresponds to a deep structure unit.

This dialogue is even more of a parent-to-parent dialogue than the one given in the previous paragraph. There is no real exchange of information between the participants in the dialogue, only an unbroken voicing of negative sentiments, without even pausing to evaluate the negative sentiments of the other person in the dialogue.

There is irony here in certain touches which Thurber gives in his choice of lexical items. The use of the onomatopoeic nonce-words 'wuffled' and 'gurbled' is effectual here in the quotation formulas. The hippopotamuses are criticizing the sounds that are being made by the parrots. They criticize them as squawks and sounds like those to be made by unoiled garden shears. In this context, Thurber's use of the words 'wuffle' and 'gurble' to describe the way that the hippopotamuses themselves talk gives a subtle twist to the entire passage. His description of the male hippopotamus in the third quotation sentence as 'her inamoratus' is similarly effective. This is a reminder that the hippopotamuses themselves have engaged in courtship activities — which were criticized by the parrots in the above paragraph.

This paragraph continues with two sentences which can be considered to expound step down tagmemes which follow on the dialogue proper. This is clearly the case in regard to the first sentence: 'They called up their friends and neighbors and discussed the incredible fact that a male gray parrot and a female gray parrot could possibly have any sex appeal'. While I assume that the following sentence ('It was long after midnight . . . ') expounds the step down 2 within the structure of this paragraph

(which expounds episode 2) there is an alternative analytical possibility. Notice first of all that this sentence begins with a further time horizon 'It was long after midnight'. There have been two such previous horizons in this discourse: in the first main paragraph, 'one African afternoon'; and in the paragraph now being discussed, 'late that evening'. Notice secondly that this sentence refers not just to the hippopotamuses in their activity of criticizing the Grays and to the Grays in their activity of criticizing the hippopotamuses. It may well be, therefore, that this final sentence expounds a *closure* tagmeme that goes along with the two previous tagmemes (episodes) in the surface structure of this discourse. By this analysis the entire discourse would consist of episode 1, episode 2, closure, and moral. The closure would be, by this analysis, expounded by a (coordinate) sentence instead of by a paragraph. I've assumed here, however, the simpler analysis indicated above, viz. that this is simply a further sentence tacked on to the end of the last paragraph in the surface structure. It is not unusual for the deep structure conclusion of an entire discourse to be appended as a part of the last surface structure paragraph of a discourse — especially if the discourse is a short one. This does not change the fact that in the deep structure of this discourse we have three successive events on three time horizons, i.e., events which are related by temporal succession.

There is, however, no valid argument per se against setting up a single sentence (a single sentence paragraph) as a constituent part of an entire discourse. This is clearly the case in respect to the very last sentence of the whole discourse, i.e., 'the Moral'. This is a discourse level tagmeme expounded by an antithetical sentence in which the word 'laugh' is used in a rather strange way as an antonym for 'love'. Nevertheless, in the reference frame of the entire discourse, this pair of ad hoc antonyms becomes quite credible and acceptable to the reader.

4.6 That this discourse belongs to the surface structure genre *narration* is evident from the fact that it has a chronological framework: 'One afternoon . . . that evening . . . long after midnight'. Within a genre may, however, occur various specific types. We have here a type of narrative which is characterized by an appended moral. I argue here that the presence of this moral tagmeme is a surface structure concession to the skewing of deep and surface structures in this discourse. If we grant (1) that the motivation of a narrative is entertainment (or at least the passive reception of information not making demands on the hearer) while the motivation of hortatory discourse is modification of conduct; and (2) that motivation belongs to the deep structure rather than to the surface structure form; then (3) a narrative which aims at modifying conduct has some of the deep structure characteristics of hortatory discourse. We may say of such a discourse that it throws deep and surface structure askew or out of phase. Such narratives as the parables of Christ often give no surface structure clue of such skewing except an initial 'The kingdom of heaven is like . . .' and a final 'He that has ears to hear, let him hear' (i.e., ponder this carefully and you will get the point). The fable, however — to which type our present discourse belongs — has an explicit moral at the end; the point of the story is not left to the reader to decipher. The fable is, therefore, a narrative discourse type in which the primary intent of narrative, entertainment, is subordinated to teaching of ethical or practival value.

This fable may be further subclassified as a discourse of reciprocal structure. It is evident that Episode 1 and Episode 2 are set over against each other. In Episode 1 the parrots criticize the hippopotamuses and in Episode 2 the hippopotamuses criticize the parrots. There is, furthermore, considerable similarity of structure between the two dialogues found in the paragraphs which expound the two episodes. Each dialogue consists of three surface structure units: initiating utterance, and two continuing utterances. Each dialogue is a parent-to-parent (transactional analysis) dialogue. The reciprocal character of the dialogues turns on the speakers of one dialogue as opposed to the other and the subject matter of the one as opposed to the other. The speakers of dialogue one become subject matter of dialogue two and the subject matter of dialogue one becomes the speakers of dialogue two. We could, in brief, symbolize these dialogues as:

$$P \underset{.}{a} b \wedge P \underset{.}{b} a$$

where P = criticize; a = parrots; and b = hippopotamuses; and sublinear dots = successive events.

The deep structure is, then, that of *temporal succession with reciprocity*, as is common in many sentences of the type 'I hit him, then he hit me'. This deep structure resembles in certain ways the deep structures coupling and contrast. Coupling with reciprocity normally involves differing predicates and no time reference: 'She speaks and I listen' (or 'she speaks to me and I listen to her'): P a b $\wedge$ Q b a. With the same predicate and again no time reference we have examples like 'I love her and she loves me'. Contrast involves at least one pair of antonyms and a second point of contrast which may be simply opposed participants or a further pair of antonyms: 'She submits but I fight' (P a $\wedge$ P'' b where P'' = antonym). Or: 'I work at night and my wife works during the day (P a x $\wedge$ P a'' x'' where a and a'' are antonyms 'husband' and 'wife' and x and x'' are antonyms 'night' and 'day'). But our discourse gives us no clear pair of antonyms for the two dialogues found in it. The parrots and hippopotamuses are opposed to each other after a fashion. It could even be argued that this discourse presents us with a closed and polarized universe in which parrots and hippopotamuses constitute the universe of participants so that they are necessarily opposed as antonyms (birds vs. beasts; treble vs. bass; light limbed creatures vs. lumbering behemoths, etc.). In this case, our P a b $\wedge$ P b a above would reduce to P $\underset{.}{a}$ a'' $\wedge$ P a'' a (where a'' = hippopotamus, the antonym of parrot). I do not choose to push the matter this far but believe that temporal succession with reciprocity is most plausible as the deep structure of this text. But could some of the effectiveness of this text be the over-tone-like suggestion of contrast, i.e., the almost-but-not-quite antithetical nature of the discourse?

I summarize this whole discourse as: 'The parrots criticized the lovemaking of the hippopotamuses and the hippopotamuses in turn criticized the lovemaking of the parrots. In this world criticism (of a rather acid variety) has more social value than lovemaking'. All of which goes to disprove the old adage: 'All the world loves a lover'.

5. Phonology

Now a word about the phonology of the text. Thurber employs resources here of alliteration and assonance which might make a serious poet envious. Take the first line of the text which begins with the words 'An arrogant gray parrot' in which the repetition of the phoneme /r/ is effective, as well as the low front vowel quality which recurs in these three words. The same vowel quality and /r/ occur further on in the same line in the word 'arrogant' which is repeated and the phrase 'one African afternoon'. After this Thurber shifts to the use of /d/ in the next phrase 'in disdain and derision' both of which also have sibilants and final /n/. He then goes in for /l/'s in the next phrase 'to the lovemaking of a lover and his lass', and then /h/'s in 'who happened to be hippopotamuses'. High back vowel quality and /k/ are effective in the phrase 'snooky-ookums' as well as the use of reiterated /m/ in the next line, 'male in his right mind'. Add to this the /f/'s in 'affection for a female' and the reiterated low front vowel in 'capsized bathtub'. The latter phrase also gains something from the repeated stress pattern (trochaic). A similar use of repeated stress patterns (dactylic) is seen in the phrase 'waterlogged basketballs'. The use of low central vowels is effective in the phrase 'oblivious of the scornful comments', followed by the trochaic pattern in 'sharp-tongued neighbors'. Alliteration characterizes the paired participles in 'pushing and pulling', 'backing and filling', and 'snorting and snaffling'. Front vowels are effective in 'the monolithic give-and-take of their courtship sounded as lyric'. Repeated /l/'s are effective in 'as lyric to them as flowers'. High front vowels are effective in 'green things opening'. Bilabials and /m/'s are effective in the phrase 'bumbling romp', /r/'s again are effective in the phrase 'harder to tolerate', /m/'s and /l/'s in a sort of a chiastic pattern are effective in the phrase 'monolithic lovemaking'. In a quite subtle way, 'enormous creatures' is effective as well. Sibilants and front vowels give effectiveness to the phrase 'decent fossils', /r/'s again come in in the line 'probably a threat to the security of the jungle', /f/'s come in in 'phone their friends'. Sibilants come in again in 'gossip about the shameless pair', /m/'s and back vowels are effective in 'mocking and monstrous metaphors'. Front vowels and sibilants give onomatopoeic effectiveness to 'skidding buses on icy streets', while /v/'s and back vowels give effectiveness to 'overturned moving vans'. Notice also the rhythmic similarity and first vowel assonance of 'exchanging' and 'endearment' down a few lines. 'Wuffled' and 'gurbled' again come in for a comment. 'Wuffled' somehow makes one think of the verb 'muffle'; maybe what it indicates is 'to say something in a muffled tone of voice'. 'Gurbled' sounds suspiciously like 'garbled'. 'Garden shears' is also phonologically effective. Velars are effective in the phrase 'discussed the incredible' and again low front vowels in 'male gray parrot' and sibilants in 'possibly have any sex appeal'. Notice too that it is 'criticizing the Grays', but 'maligning the hippopotamuses', where the verbs which are chosen to match 'Gray' and to match 'hippopotamus' again enhance the overall phonological effect. One gets the impression that nothing in this little discourse is accidental, but that every brush stroke is a contribution to the design of the whole.

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