METAMAGICAL THEMAS

A self-referential column about last January's column about self-reference

by Douglas R. Hofstadter

As this is the January issue, I thought I would follow up on my column of last January on self-reference, and that is what this column is about. I should like, however, to take advantage of this opening paragraph to warn those readers who are not amused by self-referential material that they will probably want to quit reading before they reach the end of this paragraph, or for that matter this sentence, in fact this clause, even this noun phrase—in short, this.

Since my column of last January appeared I have received a hefty pile of self-referential mail. Tony Durham astutely surmised: "What with the likely volume of replies, I should not think you are reading this in person." John C. Waugh's letter yelped: "Help, I'm buried under an avalanche of readers' responses!" His letter was rescued and now rests in a much reduced pile. Here I shall present some of my favorites in that collection.

Before leaving the topic of mail I should like to point out that the postmark on Ivan Vince's postcard from Britain cryptically stated, "Be properly addressed." Was this an order issued by the post office to the postcard itself? If it was, then British postcards must be more intelligent than American ones; I have yet to meet a postcard that could read, let alone correct its own address. (One postcard that reached me was addressed to me in care of the magazine *Omni*!)

I was flattered by a couple of self-undermining compliments. Richard Ruttan wrote, "I just can't tell you how much I enjoyed your first article," and John Collins said, "This does not communicate my delight at January's column." I was also pleased to learn that my fame had spread as far as the men's room of the Tufts University philosophy department, where Dan Dennett found the following scribbled on the wall: "This sentence is graffiti—Douglas R. Hofstadter."

A popular pastime of my correspondents was the search for interesting self-answering questions. Only a few succeeded in "jootsing" (jumping out of the system), which to me is the same as being truly novel. It seems that success in this limited art form is not easy to come by. John Flagg cynically remarked (I paraphrase slightly): "Ask a self-answering question, and get a self-questioning answer." One of my favorites was given by Henry Taves: "I fondly remember a history exam I encountered in boarding school that contained the following: 'IV. Write a question suitable for a final exam in this course, and then answer it.' My response was simply to copy that sentence twice." I was delighted by this. On reflection, however, I began to suspect something was slightly wrong here. What do you think?

Richard Showstack contributed two droll self-answering questions: "What question no verb?" and "What is a question that mentions the word 'umbrella' for no apparent reason?" Jim Shiley sent in a clever entry that I modify slightly into "Is this a rhetorical question, or is this a rhetorical question?" He also contributed the following: "Take a blank sheet of paper and on it write: 'How far across the page will this sentence run?' Now if some polyglot friend of yours points out that the same string of phonemes in Ural-Altaic means 'six inches,' send me a free subscription to *Scientific American*. Otherwise, if the inscription of a question counts both as the question and as a unit of measure, I at least get a booby prize. But I think somehow I bent the rules."

My own solutions to the problem of the self-answering question are not so much self-*answering* as self-*provoking* questions, such as the following one: "Why are you asking me *that* out of the blue?" It is obvious that when the question is asked out of the blue it might well elicit an identical response, indicating the hearer's bewilderment. Yes, but what prompts *this* query?

Philip Cohen relayed the following anecdote about a self-answering question, from Damon Knight: "Terry Carr, an old friend, sent us a riddle on a postcard, then the answer on another postcard. Then he sent us another riddle, 'How do you keep a turkey in suspense?' and he never sent the answer. After about two weeks we realized that *was* the answer."

Several of the real masterpieces sent in belong to what I call the self-documenting category, of which a simple example is Jonathan Post's "This sentence contains ten words, eighteen syllables and sixty-four letters." A neat twist is supplied by John Atkins in his sentence "'Has eighteen letters' does." The self-documenting form can get much more convoluted and introspective. An example by the wordplay master Howard Bergerson was brought to my attention by Philip Cohen. It goes: "In this sentence the word AND occurs twice, the word EIGHT occurs twice, the word FOUR occurs twice, the word FOURTEEN occurs four times, the word IN occurs twice, the word OCCURS occurs fourteen times, the word SENTENCE occurs twice, the word SEVEN occurs twice, the word THE occurs fourteen times, the word THIS occurs twice, the word TIMES occurs seven times, the word TWICE occurs eight times and the word WORD occurs fourteen times."

That is good, but the gold medal in the category is reserved for Lee Sallows, who submitted the following tour de force: "Only the fool would take trouble to verify that his sentence was composed of ten a's, three b's, four c's, four d's, forty-six e's, sixteen f's, four g's, thirteen h's, fifteen i's, two k's, nine l's, four m's, twenty-five n's, twenty-four o's, five p's, sixteen r's, forty-one s's, thirty-seven t's, ten u's, eight v's, eight w's, four x's, eleven y's, twenty-seven commas, twenty-three apostrophes, seven hyphens and, last but not least, a single !"

I (perhaps the fool) did take the trouble to verify the entire thing. First, however, I did make some spot checks. And I must say that when the first random spot check worked (I think I checked the number of *g*'s), it had a strong psychological effect: all of a sudden the credibility rating of the sentence shot way up for me. It strikes me as weird (and wonderful) how in certain situations the verification of a tiny percentage of a theory can serve to powerfully strengthen your belief in the full theory. Perhaps that is the whole point of the sentence!

The noted logician Raphael Robinson submitted a playful puzzle in the self-documenting line. The reader is asked to complete the following sentence: "In this sentence the number of occurrences of 0 is _____, of 1 is _____, of 2 is _____, of 3 is _____, of 4 is _____, of 5 is _____, of 6 is _____, of 7 is _____, of 8 is _____ and of 9 is _____." Each blank is to be filled with a numeral of one or more digits, written in decimal notation. There are exactly two solutions. Readers might also search for two

sentences that document each other, or even longer loops of that kind.

Clearly the ultimate in self-documentation would be more than a sentence that merely inventoried its parts; it would be a sentence that included a rule as well, telling all the king's men how to put those parts back together again to create the full sentence—in short, a self-reproducing sentence. Such a sentence is Willard Van Orman Quine's English rendition of Kurt Gödel's classic metamathematical homage to Epimenides the Cretan:

"yields falsehood when appended to its quotation" yields falsehood when appended to its quotation.

Quine's sentence in effect tells the reader how to construct a replica of the sentence being read, and then (just for good measure) adds that the replica (not *itself,* for heaven's sake!) asserts a falsity! It is reminiscent of the famous remark made by Epilopsides the Concretan (a second cousin of Epimenides') to Flora, a beautiful young woman whose ardent love he could not return (he was betrothed to her twin sister Fauna): "Take heart, my dear. I have a suggestion that may cheer you up. Just take one of these cells from my arm and clone it. You'll wind up with a fellow who looks and thinks just like me. But do watch out for him—he is given to telling beautiful women real whoppers!"

In the 1940's John von Neumann worked hard trying to design a machine that could build a replica of itself out of raw materials. He came up with a theoretical design consisting of hundreds of thousands of parts. Seen in hindsight and with a considerable degree of abstraction, the idea behind von Neumann's self-reproducing machine turns out to be pretty similar to the means by which DNA replicates itself. And this in turn is close to Gödel's method of constructing a self-referential sentence in a mathematical language in which at first there seems to be no way of referring to the language itself.

The first every-other-decade Von Neumann Challenge is thus hereby presented for ambitious readers: Create a comprehensible and not unreasonably long self-documenting sentence that not only lists its parts (at either the word level or the letter level) but also tells how to put them together so that the sentence reconstitutes itself. (Notice, by the way, the requirement is that the sentence be "not unreasonably long," which is different—very different—from being "reasonably long.") The parts list (or "seed") should be an inventory of words or typographical symbols, more or less as in the sentences created by Howard Bergerson and Lee Sallows. The inventoried symbols should in some way be clearly distinguishable from the text that refers to them. For instance, they could be enclosed in quotation marks or printed in another typeface or referred to by name. It is not so important what convention is adopted, as long as the distinction is sharp. The rest of the sentence (the "building rule") should be printed normally, since it is to be regarded not as typographical raw material but as a set of instructions. This is the use-mention distinction I discussed last January, and to disregard it is a serious conceptual weakness. (It is a flaw in Sallows' sentence that slightly tarnishes the gold on his medal.)

The building rule may not refer to normally printed material, only to parts of the inventory. Hence it is not permitted for the building rule to refer to itself in any way! The building rule has to describe structure explicitly. Furthermore (and this is the subtlest and probably the most often overlooked aspect of self-reference), the building rule must specify which parts are to be printed normally and which parts in quotes (or however the raw materials are being indicated). In this respect Bergerson's sentence fails. Although to its credit it sharply distinguishes between use and mention by relying on uppercase for the names of inventory items and lowercase for item counts and filler words, it does not have separate inventories for items in uppercase and lowercase. Instead it lumps the two together, losing a vital distinction.

In the Von Neumann Challenge extra points will be awarded for solutions given in Basic English, or whose seed is entirely at the letter level (as in Sallows' sentence). The Quine sentence, although it clearly incorporates a seed (the seven-word phrase in quotation marks) and a building rule (that of appending something to its quotation), is not a legal entry because its seed is too far from being raw material.

There is a very good reason, by the way, for the seed of Quine's sentence to be so complicated—in fact, for it to be identical with the building rule, except for the quotation marks. The reason is simple to state: You have to *build the building rule* out of raw materials, and the more the building rule looks like the seed the simpler it will be to build it from the seed. To make a full new sentence all you need to do is make two copies of the seed, carry out whatever simple manipulations will convert one copy of the seed into the building rule, and then splice the other copy of the seed to the newly minted building rule to make up a complete new sentence, fresh off the assembly line.

To make this clearer it will be helpful to give a slight variation on Quine's sentence. Imagine that you recognized only lowercase roman letters and that uppercase letters were alien to you. Then text printed in uppercase would be for all practical purposes devoid of meaning or interest, whereas text in lowercase would be full of meaning and interest, able to suggest ideas or actions. Now suppose someone gave you a conversion table that matched each uppercase letter with its lowercase counterpart, so that you could "decode" uppercase text. Then one day you came across this piece of meaningless uppercase text:

YIELDS A FALSEHOOD WHEN USED AS THE SUBJECT OF ITS LOWERCASE VERSION

On being decoded the text would yield a lowercase sentence, or rather, a lowercase sentence fragment—a predicate without a subject. Suggestive, eh?

This notion of two parallel alphabets, one in which text is inert and meaningless and the other in which text is active and meaningful, may strike you as yielding no more than a minor variation on Quine's sentence, but in fact it is very similar to an exceedingly clever trick that nature discovered and has exploited in every cell of every living organism. Our seed—our DNA—is an enormous book of inert text written in a chemical alphabet that has 64 "uppercase" letters (codons). Our building rules—our enzymes—are short, pithy slogans of active text written in a different chemical alphabet that has just 20 "lowercase" letters (amino acids). There is a map (the genetic code) that converts uppercase letters into lowercase ones. Obviously some lowercase letters must correspond to more than one uppercase letter, but here that is a detail. It also turns out that three characters of the uppercase alphabet are not letters but punctuation marks telling where one pithy slogan ends and the next one begins, but again these are details. Once you know the mapping you often will not even remember to distinguish between the two chemical alphabets: the inert uppercase codon alphabet and the active lowercase amino acid alphabet. The main thing is that, armed with the genetic code, you can read the DNA book (seed) as if it were a sequence of enzyme slogans (building rules) telling how to write a new DNA book and a new set of enzyme slogans. It is a perfect parallel to our variation on the Quine sentence, where inert, uppercase seed text was converted into active, lowercase rule text that told how to make a copy of the full Quine sentence given its seed.

A cell's DNA and enzymes act like the seed and building rules of Quine's sentence, or the parts list and building rules of von Neumann's self-reproducing automaton, or then again like the seed and building rules of computer programs that print themselves out. It is amazing how universal the mechanism of self-reference is, and for that reason I always find it quaint that people who inveigh against the supposed silliness of self-ref-

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erence are themselves composed of trillions of self-referential molecules.

Scott Kim and I discovered a strange pair of sentences:

"The following sentence is totally identical with this one except that the words 'following' and 'preceding' have been exchanged, as have the words 'except' and 'in' and the phrases 'identical with' and 'different from.'"

"The preceding sentence is totally different from this one in that the words 'preceding' and 'following' have been exchanged, as have the words 'in' and 'except' and the phrases 'different from' and 'identical with.'"

At first glance these sentences are reminiscent of a two-step variant on the Epimenides paradox ("The following sentence is true"; "The preceding sentence is false"). At second glance, however, they are seen to say exactly the same thing as each other. Don Byrd disagrees with me; he maintains they say totally different things.

Not surprisingly, several of the sentences submitted by readers had a paradoxical flavor. Some were variants on Russell's paradox about the barber who shaves all those who do not shave themselves, or the set of all sets that do not include themselves as elements. For instance, Gerald Hull concocted this strange sentence: "This sentence refers to every sentence that does not refer to itself." Is Hull's concoction self-referential or is it not? In a similar vein Michael Gardner cited a Reed College senior thesis whose dedication ran: "This thesis is dedicated to all those who did not dedicate their theses to themselves." The book *Model Theory,* by C. C. Chang and H. J. Keisler, bears a similar dedication, as Charles Brenner pointed out to me. He also suggested another variant on Russell's paradox: Write a computer program that prints out a list of all programs that do not ever print themselves out. The question is, of course, will this program ever print itself out?

One of the most disorienting sentences came from Robert Boeninger: "This sentence does in fact not have the property it claims not to have." Got that? The problem, of course, is to figure out just what property it is that the sentence claims it lacks.

The Dutch mathematician Hans Freudenthal sent along a paradoxical anecdote based on self-reference:

"There is a story by the 18th-century German Christian Gellert called 'Der Bauer und sein Sohn' ('The Peasant and His Son'). One day during a walk, when the son tells a big lie, his father direly warns him about the liars' bridge, which they are approaching. This bridge always collapses when a liar walks across it. After hearing this frightening warning, the boy admits his lie and confesses the truth.

"When I [Freudenthal] told a 10-year-old boy this story, he asked me what happened when they eventually came to the bridge. I replied, 'It collapsed under the father, who had lied since in fact there is no liars' bridge.' (Or did it?)"

C. W. Smith, writing from London, Ont., described a situation reminiscent of the Epimenides paradox:

"During the 1960's, standing alone in the midst of a weed-strewn field in this city there was a weathered sign that read, '$25 reward for information leading to the arrest and conviction of anyone removing this sign.' For whatever it's worth, the sign has long since disappeared. And so, for that matter, has the field."

Incidentally, the Epimenides paradox should not be confused with the Nixonides paradox, first uttered by Nixonides the Cretin in A.D. 1974: "This statement is inoperative." Speaking of Epimenides, one of the most elegant variations on his paradox is the "Errata" section in a hypothetical book described by Beverley Rowe. It looks like this:

> (vi)
>
> **Errata**
>
> Page (vi): **For "Errata" read "Erratum"**

Closely related to the truly paradoxical sentences are those that belong to what I call the "neurotic" and "healthy" categories. A healthy sentence is one that, so to speak, practices what it preaches, whereas a neurotic sentence is one that says one thing while doing the opposite. Alan Auerbach has given us a good example in each category. His healthy sentence is "Terse!" His neurotic sentence is "Proper writing—and you've heard this a million times—avoids exaggeration." Here is a healthy sentence from Brad Shelton: "Fourscore and seven words ago this sentence hadn't started yet." One of the jootsingest of sentences comes from Carl Bender: "The following sentence is written in Thailand, on"

Consider a related sentence sent by David Stork: "It goes without saying that...." To which category does it belong? Perhaps it is a psychotic sentence. Pete Maclean contributed a puzzling one: "If the meanings of 'true' and 'false' were switched, then this sentence would not be false." I still cannot figure out what it means! Dan Krimm wrote to tell me: "I've heard that this sentence is a rumor." Linda Simonetti contributed the following: "Which is not a complete sentence, but merely a subordinate clause." Douglas Wolfe offered the following neurotic rule of thumb: "Never use the imperative, and it is also never proper to construct a sentence using mixed moods." David Moser reminded me of a slogan *National Lampoon* once used: "So funny it sells without a slogan!" Perry Weddle wrote, "I'm trying to teach my parrot to say, 'I don't understand a thing I say.' When *I* say it, it's viciously self-referential, but in *his* case?" Stephen Coombs pointed out that "a sentence may self-refer in the verb." My mother, Nancy Hofstadter, heard Secretary of State Haig describe a warning message to the Russians as "a calculated ambiguity that would be clearly understood." Yes, sir!

Jim Propp submitted a sequence of sentences that slide from the neurotically healthy to the healthily neurotic:

"This sentence every third, but it still comprehensible."

"This would easier understand fewer had omitted."

"This impossible except context."

"4′33″ attempt idea."

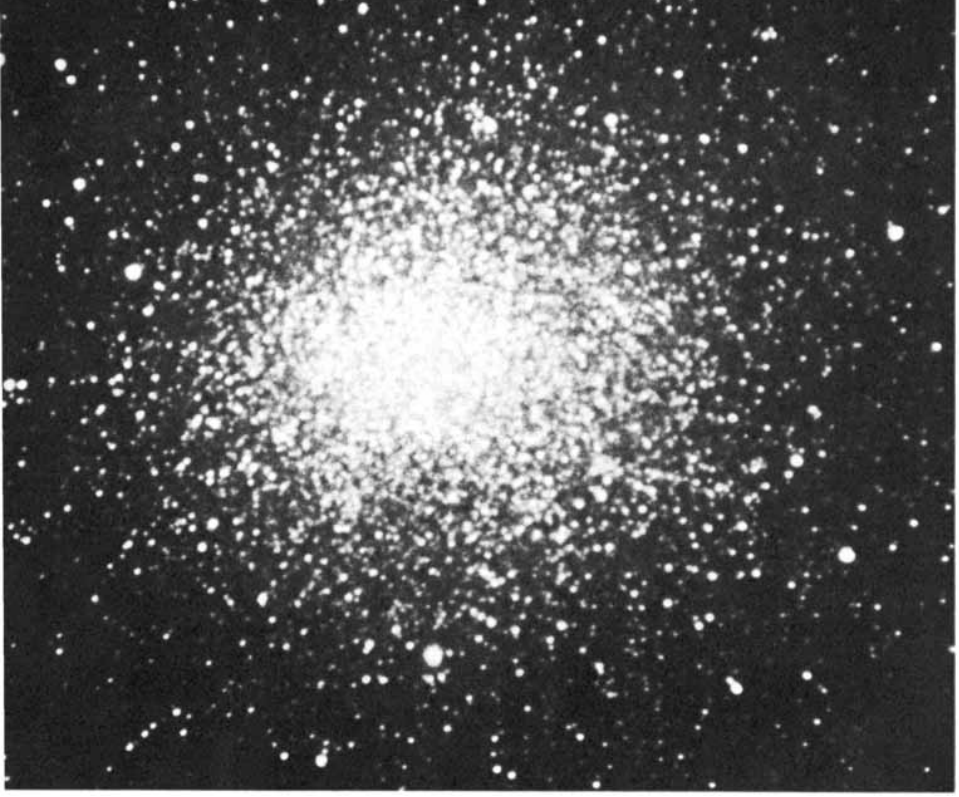
""

The penultimate sentence refers to John Cage's famous piece of piano music consisting of four minutes and 33 seconds of silence. The last sentence might well be an excerpt from *The Wit and Wisdom of Spiro T. Agnew,* although it is too short for one to be sure. Propp also sends along the following healthy quotation from David Premack in *Intelligence in Ape and Man:* "By the 'productivity' of language, I mean the ability of language to introduce new words in terms of old ones."

The philosopher Howard DeLong contributed what might be considered a neurotic syllogism: "All invalid syllogisms break at least one rule. This syllogism breaks at least one rule. Therefore this syllogism is an invalid syllogism."

Several readers pointed out phrases and jokes that have been making the rounds. D. A. Treissman, for instance, reminded me that "nostalgia ain't what it used to be." Henry Taves mentioned the delightful T-shirts adorned with statements such as "My folks went to Florida and all they brought back for me was this lousy T-shirt!" And John Fletcher described an episode of the television program "Laugh-In" a few years ago on which Joanne Worley sang, "I'm just a girl who can't say 'n...,' 'n...,' 'n....'" John Healy wrote, "I used to think I was indecisive, but now I'm not so sure."

I myself have a few contributions to this collection. A neurotic one is "In this sentence the concluding three words 'were left out.'" Or is it neurotic? These things confuse me! In any case an entirely healthy sentence is "This sentence offers its reader(s) various alternatives/options that he or she (or they) is (are) free to accept and/or reject." And then there is the inevitable "This sentence is neurotic." The thing is, if it *is* neurotic, it practices what it preaches, so that it is healthy and *cannot* be neurotic, but then



if it is *not* neurotic, it is the opposite of what it says it is, so that it *has* to be neurotic. No wonder it is neurotic!

Speaking of neurotic sentences, what about sentences with identity crises? To me these are the most interesting ones of all. A typical example is Dan Krimm's vaguely apprehensive question, "If I stated something else, would it still be me?" I thought this could be worded better, and so I revised it slightly as follows: "If I said something else, would it still be me saying it?" I still was not happy, and so I wrote one more version: "In another world could I have been a sentence about Humphrey Bogart?" When I paused to reflect on what I had done, I realized that in reworking Krimm's sentence I had tampered with its identity in the very way it feared. The question remained: Were all these variants really the same sentence deep down? My last experiment along these lines was "In another world could this sentence have been Dan Krimm's sentence?"

Clearly some readers were thinking along parallel lines. John Atkins asked, "Can anyone explain why this would still be the same magazine without this query, and yet this would not be the same query without this word?" And Loul McIntosh, who works at a rehabilitation center for formerly schizophrenic patients, had a question connecting personal identity with self-referential sentences: "If I were you, who would be reading this sentence?" She then added: "(N.B. That's what I get for working with schizophrenics.)" This brings me to Peter M. Brigham, M.D., who in his work ran across a case of literary schizophrenia: "You have, of course, just begun reading the sentence that you have just finished reading."

Pursuing the slithery snake of self in his own way, Uilliam M. Bricken, Jr., wrote in: "If you think this sentence is confusing, then change one pig." Now, anyone can see that this does not make any sense at all. Surely what he meant was, "If you think this sentence is confusing, then roast one pig"—don't ewe agree? By the by, if ewe think "Uilliam" is confusing, then roast one ewe. And speaking of ewes, what's a nice word like "ewe" doing in a foxy paragraph like this?

A while back I heard a radio show about pets on which the announcer mused, "If a dog had written this broadcast, he might have said that people are inferior because they don't wag their tails." This gave me paws for thought: What might this column have been like if it had been written by a dog? I cannot say for *sure,* but I have a hunch it would have been about chasing squirrels. And it might have had a paragraph speculating about what this column would have been like if it had been written by a squirrel.

I think my favorite of all the sent-

in-ces was one contributed by Harold Cooper. He was inspired by my counterfactual self-referential question: "What would this sentence be like if π were 3?" Here is his answer. For me it exemplifies the meaning of the verb "joots."

> If pi were 3, this sentence would look something like this.

The six-sided *O*'s represent the fact that the ratio of the circumference to the diameter of a hexagon is 3. Clearly, in Cooper's mind, if π were 3, what conclusion would be more natural than that *circles would be hexagons!* Who could ever think otherwise? I was intrigued by the fact that as π's value slipped to 3 not only did circles turn into hexagons but also the interrogative mood slipped into the declarative mood. Remember that the question asked how the question itself would be in that strange subjunctive world. Would it lose its curiosity about itself and cease to be a question? I did not see why that personality trait of the sentence would be affected by the value of π. On the other hand, it seemed obvious to me that if π *were* 3, the antecedent of the conditional should no longer be subjunctive. In fact, rather than saying "if π *were* 3," it should say "because π *is* 3" (or something to that effect). Putting my thoughts together, then, I came up with a slight variation on Cooper's sentence: "What is this sentence like, π being 3 (as usual)?"

Several readers were interested in sentences that refer to the language they are in (or not in, as the case may be). An example is "If you spoke English, you'd be in your home language now." Jim Propp sent in a delightful pair of such sentences that need to be read together:

"Cette phrase se refere a elle-meme, mais d'une maniere peu evidente a la plupart des Americains."

"Plim glorkle pegram ut replat, trull gen ris clanter froat veb nup lamerack gla smurp Earthlings."

If you do not understand the first sentence, just get a Martian friend to help you decode the second one. That will provide hints about the first. [We apologize for leaving off the proper Martian accent marks, but they were not available in this typeface.]

Last January I published several sentences created by David Moser and mentioned that he had written an entire story consisting of self-referential sentences. Many readers were intrigued. I decided there could be no better way to conclude this column than to print David's story in its entirety. Here it is:

This Is the Title of This Story, Which Is Also Found Several Times in the Story Itself

This is the first sentence of this story. This is the second sentence. This is the title of this story, which is also found several times in the story itself. This sentence is questioning the intrinsic value of the first two sentences. This sentence is to inform you, in case you haven't already realized it, that this is a self-referential story, that is, a story containing sentences that refer to their own structure and function. This is a sentence that provides an ending to the first paragraph.

This is the first sentence of a new paragraph in a self-referential story. This sentence is introducing you to the protagonist of the story, a young boy named Billy. This sentence is telling you that Billy is blond and blue-eyed and American and 12 years old and strangling his mother. This sentence comments on the awkward nature of the self-referential narrative form while recognizing the strange and playful detachment it affords the writer. As if illustrating the point made by the last sentence, this sentence reminds us, with no trace of facetiousness, that children are a precious gift from God and that the world is a better place when graced by the unique joys and delights they bring to it.

This sentence describes Billy's mother's eyes bulging and tongue protruding and makes reference to the unpleasant choking and gagging noises she's making. This sentence makes the observation that these are uncertain and difficult times and that relationships, even seemingly deep-rooted and permanent ones, do have a tendency to break down.

Introduces in this paragraph the device of sentence fragments. A sentence fragment. Another. Good device. Will be used more later.

This is actually the last sentence of the story but has been placed here by mistake. This is the title of this story, which is also found several times in the story itself. As Gregor Samsa awoke one morning from uneasy dreams he found himself in his bed transformed into a gigantic insect. This sentence informs you that the preceding sentence is from another story entirely (a much better one, it must be noted) and has no place at all in this particular narrative. In spite of the claims of the preceding sentence, this sentence feels compelled to inform you that the story you are reading is in actuality "The Metamorphosis," by Franz Kafka, and that the sentence referred to by the preceding sentence is the *only* sentence that does indeed belong in this story. This sentence overrides the preceding sentence by informing the reader (poor, confused wretch) that this piece of literature is actually the Declaration of Independence, but that the author, in a show of extreme negligence (if not malicious sabotage), has so far failed to include even *one single sentence* from that stirring document, although he has condescended to use a small sentence *fragment,* namely "When in the

course of human events," embedded in quotation marks near the end of a sentence. Showing a keen awareness of the boredom and downright hostility of the average reader with regard to the pointless conceptual games indulged in by the preceding sentences, *this* sentence returns us at last to the scenario of the story by asking the question, "Why is Billy strangling his mother?" This sentence attempts to shed some light on the question posed by the preceding sentence but fails. *This* sentence, however, succeeds in that it suggests a possible incestuous relationship between Billy and his mother and alludes to the concomitant Freudian complications any astute reader will immediately envision. Incest. The unspeakable taboo. The universal prohibition. Incest. And notice the sentence fragments? Good literary device. Will be used more later.

This is the first sentence in a new paragraph. This is the last sentence in a new paragraph.

This sentence can serve as either the beginning of a paragraph or the end, depending on its placement. This is the title of this story, which is also found several times in the story itself. This sentence raises a serious objection to the entire class of self-referential sentences that merely comment on their own function or placement within the story (e.g., the last four sentences), on the grounds that they are monotonously predictable, unforgivably self-indulgent and merely serve to distract the reader from the real subject of this story, which at this point seems to concern strangulation and incest and who knows what other delightful topics. The purpose of this sentence is to point out that the preceding sentence, while not itself a member of the class of self-referential sentences it objects to, nevertheless *also* serves merely to distract the reader from the real subject of this story, which actually concerns Gregor Samsa's inexplicable transformation into a gigantic insect (in spite of the vociferous counterclaims of other well-meaning although misinformed sentences). This sentence can serve as either the beginning of a paragraph or the end, depending on its placement.

This is the title of this story, which is also found several times in the story itself. This is *almost* the title of this story, which is found only once in the story itself. This sentence regretfully states that up to this point the self-referential mode of narrative has had a paralyzing effect on the actual progress of the story itself, that is, these sentences have been so concerned with analyzing themselves and their role in the story that they have failed by and large to perform their function as communicators of events and ideas that one hopes coalesce into a plot, character development, etc., in short, the very raisons d'être of any respectable, hardworking sentence in the midst of a piece of compelling prose fiction. This sentence in addition points out the obvious analogy between the plight of these agonizingly self-aware sentences and similarly afflicted human beings, and it points out the analogous paralyzing effects wrought by excessive and tortured self-examination.

The purpose of this sentence (which can also serve as a paragraph) is to speculate that if the Declaration of Independence had been worded and structured as lackadaisically and incoherently as this story has been so far, there's no telling what kind of warped libertine society we'd be living in now or to what depths of decadence the inhabitants of this country might have sunk, even to the point of deranged and debased writers constructing irritatingly cumbersome and needlessly prolix sentences that sometimes possess the questionable if not downright undesirable quality of referring to themselves and they sometimes even become run-on sentences or exhibit other signs of inexcusably sloppy grammar like unneeded superfluous redundancies that almost certainly would have insidious effects on the lifestyle and morals of our impressionable youth, leading them to commit incest or even murder and maybe *that's* why Billy is strangling his mother, because of sentences *just like this one,* which have no discernible goals or perspicuous purpose and just end up anywhere, even in mid

Bizarre. A sentence fragment. Another fragment. Twelve years old. This is a sentence that. Fragmented. And strangling his mother. Sorry, sorry. Bizarre. This. More fragments. This is it. Fragments. The title of this story, which. Blond. Sorry, sorry. Fragment after fragment. Harder. This is a sentence that. Fragments. Damn good device.

The purpose of this sentence is threefold: (1) to apologize for the unfortunate and inexplicable lapse exhibited by the preceding paragraph; (2) to assure you, the reader, that it will not happen again; and (3) to reiterate the point that these are uncertain and difficult times and that aspects of language, even seemingly stable and deeply rooted ones such as syntax and meaning, do break down. This sentence adds nothing substantial to the sentiments of the preceding sentence but merely provides a concluding sentence to this paragraph, which otherwise might not have one.

This sentence, in a sudden and courageous burst of altruism, tries to abandon the self-referential mode but fails. This sentence tries again, but the attempt is doomed from the start.

This sentence, in a last-ditch attempt to infuse some iota of story line into this paralyzed prose piece, quickly alludes to Billy's frantic cover-up attempts, followed by a lyrical, touching and beautifully written passage wherein Billy is reconciled with his father (thus resolving the subliminal Freudian conflicts obvious to any astute reader) and a final exciting police chase scene during which Billy is accidentally shot and killed by a panicky rookie policeman who is coincidentally also named Billy. This sentence, although basically in complete sympathy with the laudable efforts of that last action-packed sentence, reminds the reader that such allusions to a story that doesn't, in fact, yet exist are no substitute for the real thing and therefore will not get the author (indolent goof-off that he is) off the proverbial hook.

Paragraph. Paragraph. Paragraph. Paragraph. Paragraph. Paragraph. Paragraph. Paragraph. Paragraph. Paragraph. Paragraph. Paragraph.

The purpose. Of this paragraph. Is to apologize. For its gratuitous use. Of. Sentence fragments. Sorry.

The purpose of this sentence is to apologize for the pointless and silly adolescent games indulged in by the preceding two paragraphs, and to express regret on the part of us, the more mature sentences, that the entire tone of this story is such that it can't seem to communicate a simple, albeit somewhat sordid, scenario.

This sentence wishes to apologize for all the needless apologies found in this story (this one included), which, although placed here ostensibly for the benefit of the more vexed readers, merely delay in a maddeningly recursive way the continuation of the by now nearly forgotten story line.

This sentence is bursting at the punctuation marks with news of the dire import of self-reference as applied to sentences, a practice that could prove to be a veritable Pandora's box of potential havoc, for if a sentence can refer or allude to itself, why not a lowly subordinate clause, perhaps *this very* clause? Or this sentence fragment? Or three words? Two words? *One?*

Perhaps it is appropriate that this sentence gently and with no trace of condescension reminds us that these are indeed very difficult and uncertain times and that in general people just aren't nice enough to each other, and that perhaps we, whether sentient human beings or sentient sentences, should just *try harder.* I mean, there *is* such a thing as free will, there *has* to be, and this sentence is proof of it! Neither this sentence nor you, the reader, is completely helpless in the face of all the pitiless forces at work in the universe. We should stand our ground, face facts, take Mother Nature by the throat and just *try harder.* By the throat. Harder. Harder, harder.

Sorry.

This is the last sentence of the story. This is the last sentence of the story. This is the last sentence of the story. This is.

Sorry.