

# Arthur Koestler's Theory of Humor

Robert L. Latta

Arthur Koestler put forward a theory of humor that has many facets, that includes, in my opinion, a number of insights, and that is surely to some extent correct. My purpose in this paper is to test that theory. My method is take a small sample of humorous items and, with respect to each of these items individually, to determine to what extent it shows the features that Koestler claims are universal features of humor, and to what extent Koestler's theory succeeds in explaining why it is funny.

The humorous items that I have chosen for this test come from a well-known American literary magazine, *The New Yorker*. The readership of *The New Yorker* is generally educated and prosperous. The magazine publishes, among other things, notes and comment on life in New York City; short stories and humorous pieces of generally high literary quality; essays on current political and social problems; biography; reviews of books, art, music, and movies; cartoons most of which represent a mild and sophisticated type of humor and many of which are topical in content; and short unintentionally humorous items of various sorts contributed by readers and selected by an editor, who often adds a comment. These last are printed in small type and used as fillers.

Of the various types of humorous pieces that appear in *The New Yorker*, I have chosen the last mentioned, the short unintentionally humorous items, as the type I will use to test Koestler's theory. To be sure, these items do not constitute a random sample of humor of all kinds and origins, for they are all in English, they are all historically recent, they were all chosen by an editor for the probability that they would appeal to readers of *The New Yorker*, and none of them is intentionally humorous. On the other hand, they do come from varied sources. My main reason for choosing items of this type, however, is the following. In formulating his theory, Koestler appears not to have had unintentional humor in mind, and thus an examination of unintentionally humorous items might reveal aspects of the phenomenon of humor that are not covered by his theory.

Any person whose native language is not English, even if he be highly educated, might find it difficult to appreciate the humor of some of the *New Yorker* items that I shall discuss. Therefore, in the case of each of these items, to the extent necessary, I shall explain

the humor for the benefit of those of my readers for whom English is a second language before I analyze that humor in theoretical terms.

In the course of preparing to write this paper, I have discovered that analyzing an item of humor in order to arrive at a theoretical explanation of its comic effect is more an art than a science. It is, moreover, a subtle and difficult art. He who undertakes a theoretical analysis of a particular item of humor must rely on an introspective feel for the movement of his own thoughts and feelings, and must bear in mind that other people are likely to react to that same item in very different ways. I have found, moreover, that the logical questions involved in the theory of humor are subtle. These questions are, in fact, fully as subtle as the logical questions involved in problems of metaphysics. For these reasons, as the reader will find, I approach the analysis of particular items of humor, and the logical questions that I take up, with some diffidence.

First, then, I shall present Koestler's theory of humor. I shall explain certain parts of it in some detail, shall merely mention other parts, and shall pass over yet other parts without mention. Then, as a footnote to my exposition of Koestler's theory, I shall go over a few miscellaneous criticisms and questions that arise directly out of what he says. Then I shall test his theory against the items of unintentional humor that I have chosen. Finally, I will state my conclusions concerning the soundness of Koestler's theory.

#### 1. Koestler's Theory

As Koestler points out, civilized adult human beings often laugh in a more or less deliberate, calculating way on occasions on which they do not really feel amused, in order to please a boss, to avoid the appearance of not sharing in the spirit of the group, and for many other reasons. It should be understood that Koestler's theory of humor is not meant to be applied to cases of this sort, but only to cases in which spontaneous laughter or smiling occurs.

Koestler defines humor as "a type of stimulation that tends to elicit the laughter reflex."<sup>1</sup> It appears to be his position that smiling faintly without laughing, on the one hand, and laughing violently on the other, define a single continuum of response, and thus are to be considered responses of the same type.<sup>2</sup>

The stimuli that elicit laughter or smiling show great variety. Koestler does an excellent job of bringing home the range of these stimuli, which, as he points out, include such diverse things as physical tickling, puns, allusions to famous comedians, foreign accents, subtle witticisms, visual caricatures, and certain techniques in music. He claims, however, that all happenings and situations that give rise to laughter or smiling, or to put it another way,

### Arthur Koestler's Theory of Humor

all humorous happenings and situations whatever, despite the fact that they show great diversity, also show a single, simple, underlying pattern. This claim is one of the central features of his theory, and therefore I shall explain it in some detail.

He describes the single, universal pattern in question as "*the perceiving of a situation in two self-consistent but mutually incompatible frames of reference or associative contexts.*"<sup>3</sup> He refers to this pattern as the "intellectual structure" of humor.<sup>4</sup> To clarify the meaning of his claim that all items of humor whatever show this pattern, he presents and analyzes five verbal jokes. Partly in order to clarify this claim myself, I shall now discuss his analyses of three of these jokes. The first joke reads as follows:

A marquis of the court of Louis XV unexpectedly returned from a journey and, on entering his wife's boudoir, found her in the arms of a bishop. After a moment's hesitation, the marquis walked calmly to the window, leaned out, and began going through the motions of blessing the people in the street.

"What are you doing?" cried the anguished wife.

"Monseigneur is performing my functions, so I am performing his."<sup>5</sup>

Perhaps I should point out that the Western reader, upon reading the first sentence of this joke, tends to expect the marquis to erupt in verbal or physical violence. Koestler analyzes this joke in the following way:

... a little reflection reveals that the marquis's behaviour is both unexpected and perfectly logical—but of a logic not usually applied to this type of situation. It is the logic of the division of labour, governed by rules as old as human civilization. But his reactions would have been expected to be governed by a different set of rules—the code of sexual morality. It is the sudden clash between these two mutually exclusive codes of rules—or associative contexts—that produces the comic effect. It compels the listener to perceive the situation in two self-consistent but incompatible frames of reference at the same time; his mind has to operate simultaneously on two different wavelengths. While this unusual condition lasts, the event is not only, as is normally the case, associated with a single frame of reference, but "bisociated" with two.<sup>6</sup>

He adds that he himself coined the term 'bisociation'

. . . to make a distinction between the routines of disciplined thinking within a single universe of discourse—on a single plane, as it were—and the creative types of mental activity that always operate on more than one plane. In humour, both the *creation* of a subtle joke and the *re-creative* act of perceiving the joke involve the delightful mental jolt of a sudden leap from one plane or associative context to another.<sup>7</sup>

I think that Koestler's basic point concerning the joke about the marquis is fairly clear. The first sentence of this joke describes a situation in which a man discovers his wife's adultery. This sentence activates in the reader a tendency to think along certain lines. Thus, for example, if asked, he will probably be ready to pronounce this or that moral judgment, with qualifications, on the behavior of the wife and the bishop, and on the various possible responses of the marquis. In other words, he already has certain more or less definite ways of thinking about situations of this sort, and these ways of thinking are in some sense activated or brought into play by the first sentence. In this sense, he associates the situation with certain patterns of thought, patterns that have to do with sexual behavior. The remainder of the joke, however, from the second sentence to the last, the punch line, leads the reader to conceive of the situation in a very different way indeed. It leads him, namely, to see it as a situation in which work roles must be reassigned if all the work that calls for attention is to be done. To put it another way, the reader suddenly comes to perceive the situation not as a difficult problem of adultery, but rather as a simple problem of reassigning work roles. In this sense, he associates the situation with standard patterns of thought that have to do with the division of labor. But of course, these two patterns of thought, the one having to do with sexual behavior and the other with the division of labor, have very little to do with each other. Thus the reader "bisociates" the one situation with two different "associative contexts."

Koestler offers an analysis of the following joke, too:

A doctor comforts his patient: "You have a very serious disease. Of ten persons who catch it, only one survives. It is lucky you came to me, for I have recently had nine patients with this disease and they all died of it."<sup>8</sup>

He comments:

. . . The doctor thinks in terms of abstract, statistical probabilities, the rules of

### Arthur Koestler's Theory of Humor

which are inapplicable to individual cases; and there is an added twist because, in contrast to what common sense suggests, the patient's odds of survival are unaffected by whatever happened before; they are still one against ten. This is one of the profound paradoxes of the theory of probability, and the joke in fact implies a riddle; it pinpoints an absurdity that tends to be taken for granted.<sup>9</sup>

Several pages farther on, he identifies the two frames of reference that come into play here as "professional versus common sense logic."<sup>10</sup> In this case, I think that Koestler has analyzed his own example incorrectly; I shall explain why I think so in the next section of this paper. For present purposes, the important thing to note is that Koestler identifies the two frames of reference that figure in this joke as two types of logic: the abstract logic of statistical probabilities, which he says the doctor applies to the situation, on the one hand, and the ways of reasoning that are characteristic of common sense on the other hand. Both of these types of logic, of course, represent complex intellectual systems that can be brought to bear in order to achieve understanding of a situation.

The last joke that I shall quote from Koestler is a short one:

A masochist is a person who likes a cold shower in the morning so he takes a hot one.<sup>11</sup>

Here, a masochist is to be conceived as a person who takes satisfaction in his own suffering, a cold shower is to be taken to be unpleasant, and a hot one, pleasant. Koestler comments:

The masochist who punishes himself by depriving himself of his daily punishment is governed by rules that are a *reversal* of those of normal logic. (A pattern can be constructed in which *both* frames of reference are reversed: "A sadist is a person who is kind to a masochist.")<sup>12</sup>

Here again I think that his analysis of his own joke is questionable, as I shall explain in the next section. For present purposes, all that is necessary is to interpret his analysis correctly. This, unfortunately, is difficult, because his comments are very short. When he speaks of "the rules of normal logic," I take it that he has in mind the proposition that a masochist is a person who takes satisfaction in punishing himself, as, for example, by

taking a cold shower in the morning, for this conception of masochists figures in the first half of the joke, and is, moreover, a basic element in normal ways of thinking about masochism. When he speaks of "a reversal of the rules of normal logic," I take it that he has in mind the proposition that a masochist is a person who takes satisfaction in omitting to punish himself, for this conception of masochists figures in the second half of the joke, and is, moreover, a straightforward reversal of the first conception. It appears, however, that Koestler does not conceive of the two frames of reference that he asserts to figure in this joke as two individual propositions, for, in the quotation immediately above, using the plural "rules," he appears to refer to each of these frames of reference as a set of "rules of logic." I take it, then, that it is fair to say that according to Koestler, the two frames of reference that figure in this joke are, on the one hand, normal conceptions of and ways of thinking about masochism, and, on the other, some sort of reversal of these normal conceptions and ways of thinking.

Now we are in a better position to understand what Koestler means when he writes that all items of humor show a certain intellectual structure which consists in "the perceiving of a situation in two self-consistent but mutually incompatible frames of reference or associative contexts." I shall devote the next few paragraphs to explaining my interpretation of this statement.

To begin with, it should be noted that here, "a situation" means "one situation," i.e., a single situation. Thus, for example, according to Koestler's analysis, in the case of the joke about the marquis, the single situation that the reader perceives in two different ways is precisely the situation in which the marquis, the bishop, and the wife find themselves when the marquis walks into the room.

Koestler appears to use the terms "frame of reference" and "associative context" more or less interchangeably, but he fails to explain clearly what he means by either of them. This failure is a major weakness in his account, and it creates an important question of interpretation. A frame of reference can be defined as "a conceptual structure to which data, ideas, etc. are related."<sup>13</sup> An associative context can be defined, likewise, as a conceptual structure of some sort with which data, ideas, or a situation must or can be associated for purposes of interpretation, understanding, calculation, or the like. These definitions carry two implications that should be noted. First, they imply that frames of reference and associative contexts are to be conceived as intellectual constructions, and not, for example, as patterns of feeling. Secondly, they imply that it is essential to the concept of a frame of reference or associative context that frames of reference and associative contexts play a

certain specific role in intellectual operations: they are applied to situations for purposes of interpretation, understanding, calculation, or the like. In explaining what he means by his coinage "bisociation," Koestler applies the terms "universe of discourse" and "plane [of thought]" in such a way as to suggest that they denote a type of which the term "associative context" denotes a subtype (see page 3 above, third quotation). This in turn suggests that in his usage, the terms "associative context" and its synonym or near synonym "frame of reference" are to be understood to denote intellectual constructions of some complexity. The examples he offers bear out this suggestion. In the case of the joke about the marquis, the frames of reference are, he says, "the logic of the division of labour" and "the code of sexual morality." In the joke about the doctor, the frames of reference are, according to his analysis, the abstract logic of statistical probabilities, and the ways of reasoning that are characteristic of common sense. In the joke about masochists, they are, he says, "normal logic," i.e., normal conceptions of and ways of thinking about masochism, and a "reversal" of this. All these frames of reference, besides showing some complexity, show the two features of frames of reference described just above: they are intellectual constructions, and they are applied to situations for purposes of interpretation, etc. It appears safe to conclude, then, that in Koestler's usage, a frame of reference or associative context is an intellectual construction of some complexity that is applied to an occurrence, situation, or the like for purposes of interpretation, understanding, calculation, or the like.

It might be useful to contrast the logical type "frame of reference," thus defined, with the types "opinion" and "impression," where the latter are to be understood in the senses they bear in sentences like "I am of the opinion that Tanaka is dishonest" and "I have the impression that Tanaka is dishonest." "Frame of reference" and "opinion" denote different logical types in that an opinion does not necessarily show logical complexity of the degree shown by a frame of reference, and more importantly in that an opinion and a frame of reference play different roles in thought. To suggest this difference in the roles they play, one might point out that they are spoken of in different terms: a person holds his opinion to be true, but applies a frame of reference to a situation or the like in order to understand or deal with it. The role of an impression in mental activity is similar to that of an opinion: a person holds his opinion to be true, or has the impression that such and such is so.

Koestler does not explain clearly what he means by "self-consistent" or "mutually incompatible," either. Presumably, to say that a frame of reference is self-consistent is to say that it shows internal logical consistency of some sort. Thus, for example, the code of sexual

morality applied by an intelligent, middle-aged, married, female white Catholic resident of Philadelphia in 1983 in judging the sexual conduct of others is likely to be self-contradictory to only a limited extent, and the principles of the division of labor applied by successful managers in business no doubt show little or no self-contradiction. Presumably, to say that two frames of reference are mutually incompatible is to say that for some reason or other, it does not make sense to apply both of them to one and the same situation. Thus, for example, it does not make sense to apply both what may roughly be called the Christian code of sexual morality and the principles of the division of labor to the situation in which the marquis found himself, in that these two different frames of reference in some sense entail two very different ways of responding, ways of responding that are incompatible in that a person cannot adopt them both.

As Koestler points out, to describe a logical structure that all items of humor share is not to present a complete theory of humor. For to describe such a structure is not to explain the essential role of emotion in humor. Having described, then, what he takes to be the "intellectual structure" of humor, he proceeds to give an account of what he calls its "emotional dynamics." He begins by attempting to identify the biological function of laughter. His conclusion is this:

. . . laughter disposes of emotive excitations that have become pointless and must somehow be worked off along physiological channels of least resistance.<sup>14</sup>

He defends this conclusion, in part, by pointing out that laughter often occurs when a situation that at first appeared to be dangerous is suddenly perceived to carry no threat.<sup>15</sup> In cases of this sort, it is indeed clear that laughter serves to discharge emotional tension, more specifically, fear, that has turned out to be superfluous.

Koestler claims, and I see no reason to doubt, that all items of humor can be placed along a continuum of refinement at one end of which is the most rough, brutal sort of merriment, and at the other the most sophisticated sort of jesting. The latter sort of humor, he claims, blends into wisdom.<sup>16</sup> More contentiously, he claims that from one end of the continuum in question to the other, all humor involves an element of "aggression or apprehension."<sup>17</sup> Aggression and apprehension, i.e., hostility and fear, are, of course, connected; Koestler takes the position that they are two aspects of a single emotional response.<sup>18</sup> I take his claim that humor always involves hostility or fear to mean that hostility or fear is always an element in the feelings to which the joker appeals and in the emotions listener



### Arthur Koestler's Theory of Humor

discharges through laughter or smiling. In the present context, "an absence of sympathy with the victim of the joke" counts as hostility. Koestler claims that this element of hostility or fear is essential to humor, that without it, any humorous item will cease to be humorous. He offers various considerations to support this claim. For example, he notes that when a drunk falls on his face, an observer will laugh only if he feels hard-hearted hostility; if the observer starts to laugh, and if the hostility he feels is then suddenly displaced by sympathy, he will immediately stop laughing. He also mentions the case of teasing, which of course involves a playful sort of hostility. He cites experimental evidence that tends to establish that in the humor enjoyed by children, a relatively unsophisticated sort of humor which, he suggests, shows the fundamental nature of humor clearly, hostility and lack of sympathy play a prominent part.<sup>19</sup> He claims that impersonation is funny only if the individual impersonated is slightly degraded in the process.<sup>20</sup>

In an especially well-written passage, Koestler likens the element of hostility in subtle humor to a flavoring in a dish. I wish to note this passage for future reference:

In the subtler types of humor, the aggressive tendency may be so faint that only careful analysis will detect it, like the presence of salt in a well-prepared dish—which, however, would be tasteless without it.<sup>21</sup>

Koestler makes several secondary points about the emotional dynamics of humor. He claims that in many cases, the tension released in laughter or smiling is tension that has been stored in memory. He claims that in some cases, tension eventually released in laughter is tension of which the subject is unaware. He points out that a very small happening can trigger the release of large amounts of accumulated tension in violent laughter. He mentions that laughter in one person often stimulates laughter in those around him, and points out that this, too, can make for a big response to a trivial stimulus. He points out that something associated with a well-known joke or comical situation or pattern or style of humor can stimulate laughter or smiling even though it is not in itself funny: he mentions Charlie Chaplin's oversized shoes as an example of this.<sup>22</sup>

Koestler puts together his account of the logical structure of humor with his account of its emotional dynamics to explain how a joke works. His explanation is this. The initial part of a joke describes, alludes to, or suggests a situation or idea, and encourages the subject to perceive it in a certain frame of reference. Perceiving it in that frame of reference naturally activates or builds up emotional excitation. The punch line, however, leads

the subject suddenly to conceive of the situation or idea in question in terms of an entirely different frame of reference. His intellect jumps immediately to the new way of viewing the situation. From this new viewpoint, however, the tension that has built up or been activated has no use or object. Emotions, however, change relatively slowly, and so the subject cannot change instantly to a way of feeling appropriate to the new viewpoint. The remaining tension, then, having become superfluous, is discharged in laughter. Koestler sums up this explanation in these words: "It is emotion deserted by thought that is discharged in laughter."<sup>23</sup> Thus, for example, consider the joke about the marquis, quoted on page 3 above. According to Koestler, it is to be analyzed as follows. The initial sentence describes a case in which a man discovers his wife's adultery. A person naturally experiences a degree of emotional excitation upon reading this sentence, for the situation described has to do with such things as marital infidelity and sexual jealousy and evokes expectations of violence. But, as explained earlier, the remaining sentences of the joke get the reader to perceive the situation in a completely different way: they get him to see it as a simple and unemotional problem in the division of labor. The sexual feelings and expectations of violence aroused when the situation was viewed in the first way, however, have no point of connection at all with the situation viewed in this new way. These feelings are now without use or object. But the reader's emotional constitution is such that he cannot switch them off instantly, and cannot instantly convert them to feelings that are appropriate to the new way of viewing the situation, and so they are discharged in laughter.

An interesting implication of this account, one to which Koestler alludes, is the following. If human emotion adapted to new situations, and new ways of perceiving situations, as quickly as the human intellect comprehends or formulates them, then people would not laugh at jokes; i.e., there would be no such thing as a joke.

Koestler claims that his theory applies to all items of humor whatever. It might be instructive to list some of the many forms of humor that he attempts to bring under his theory: puns and spoonerisms; the picaresque novel; comic verse; the bogus proverb (e.g., Lewis Carroll's "Take care of the sense and the sounds will take care of themselves"); nonsense verse; satire and allegory; the practical joke; the jack-in-the-box; the man/animal hybrid (e.g., Mickey Mouse); imitation and impersonation; parody; the playful behavior of young animals and children, which, of course, often strikes adults as amusing; deformity, which children and others whose tastes are coarse often see as comical; foreign accents and foreign behavior, of which the same is true; the phonograph needle that

gets stuck and repeats the same note over and over; tickling, which, Koestler claims, evokes laughter only when the tickler is perceived as a mock attacker and inspires a little fear;<sup>24</sup> the distorting mirror at the amusement park; visual caricature; and humor in music.

Koestler argues that there are close connections and no sharp boundaries among humor art, and science. I shall not, however, be concerned with this aspect of his theory.

In outline, then, for present purposes, the salient features of Koestler's theory of humor are the following four. First, appreciating any item of humor involves thinking of a given situation or conception in two quite distinct frames of reference, each of which shows logical consistency within itself, but which are incompatible with each other in that it does not make sense to apply both of them to the situation or conception in question. Secondly, the biological function of laughter and smiling is to discharge superfluous emotional excitation. Thirdly, all humor involves hostility or fear—i.e., hostility or fear is always an element in the feelings to which the joker appeals and in the feelings which the listener discharges in laughter or smiling. This element is essential to humor. Fourthly, in every case in which a person appreciates an item of humor, he laughs or smiles because his intellect switches suddenly from one frame of reference to another, and thus leaves the emotions that arose in him in connection with the first frame of reference without any object. This is all that I shall have to say by way of expounding Koestler's theory.

## 2. Questions That Arise Directly out of Koestler's Discussion

As I wrote in my introductory remarks, this section is a footnote to the previous section. The questions that I take up here are miscellaneous, and my discussion of them is brief.

First, then, on page 2 above, I point out that Koestler defines humor as "a type of stimulation that tends to elicit the laughter reflex." This use of the indefinite article "a" is a bit puzzling, for Koestler does not make it clear whether he means "one type of stimulation among others....." or "any type of stimulation....." If he means the former, i.e., if he means that humor is one type of stimulation among others that tends to elicit the laughter reflex, then his definition is not very informative, for in this case, he has not explained *what* type of stimulation is in question. But if he means the latter, i.e., if he means that humor is any type of stimulation that tends to elicit the laughter reflex, then the soundness of his definition is perhaps questionable, for it is conceivable that there are cultural groups among which certain types of stimulation tend to elicit spontaneous laughter in the absence of amusement of any kind. He remarks that laughter indicates the occur-

rence of something humorous in the way in which the clicking of a Geiger counter indicates the presence of radioactivity.<sup>25</sup> This strongly suggests that he means that humor is *any* type of stimulation that tends to elicit the laughter reflex. I shall, however, pass over this question without further comment.

On pages 4 and 5 above, I present and discuss briefly Koestler's analysis of the joke about the doctor. To repeat, I think that he has analyzed this joke incorrectly. Surely he is mistaken to assert, as he does, that the laws of statistics are not applicable to individual cases. If in fact you are suffering from a certain illness, and if in fact only one person out of ten with that illness survives, then that statistic does indeed carry information about your individual case. What Koestler calls an "added twist" is in fact not a twist, but the very crux of the matter. The joke is funny not because the reader's intellect makes a leap from "professional logic" to "common sense logic," as Koestler claims, but rather because the reader first gets the impression that the doctor's reasoning is sound, sober, and professional, and then sees that it is unsound to the point of being silly. Contrary to Koestler, if two frames of reference do indeed figure in this joke, they are not "professional logic" and "common sense logic." What, then, are they? Perhaps they are sound, sober, professional reasoning on the one hand, and blatantly unsound reasoning on the other. If this analysis is correct, however, it presents a difficulty for Koestler's theory. He asserts that in every item of humor, each of the two or more frames of reference that come into play is "self-consistent." But what does it mean to say that this blatantly unsound reasoning is self-consistent?

On pages 5 and 6 above, I present and discuss Koestler's analysis of the joke about the masochist who takes a hot shower in the morning. Here, too, I think that his analysis is incorrect. He identifies the two frames of reference that figure in this joke as "the rules of normal logic" and "a reversal of the rules of normal logic." But it is clear, I think, that in this case the reader is asked to go along with the following line of reasoning: a masochist takes satisfaction in punishing himself, and so he takes satisfaction in denying himself punishment, because that, for him, is punishing. Most likely, this sort of masochism does not occur (and if it does, is a very high and refined form indeed). Viewed correctly, the crux of the matter is that the line of reasoning that the joker presents is fallacious. Contrary to Koestler, this joke is funny not because the reader is led to flip from one self-consistent system of logic ("the rules of normal logic") to an opposite but likewise self-consistent system ("a reversal of the rules of normal logic"), but rather because he first gets the impression that the joker's line of reasoning is sound, and then suddenly per-

### Arthur Koestler's Theory of Humor

ceives that it is, in an outrageous and clever way, unsound. But if this analysis is correct, and if there are indeed two frames of reference that figure in this joke, then one of those frames of reference is to be described as outrageously unsound reasoning, and thus once again the question arises in what sense, if in any, the unsound reasoning can be said to be self-consistent.

I shall take up one more point in this section. On pages 8 and 9 above, I briefly discuss Koestler's position on the role of hostility and fear in humor. He does certainly establish that in very many cases in which a joke is told and achieves its effect, hostility or fear is appealed to and discharged. Perhaps there is some reason, beyond the frequency of their occurrence, why hostility and fear should be discharged in laughter particularly frequently. I don't think that Koestler has established, however, that one or the other is in every case essential to humor. For one thing, he gives no systematic argument in favor of this conclusion, i.e., no argument that might reasonably be said to cover all possible cases. For another thing, which perhaps comes down in the end to the same thing, he gives no satisfying explanation, indeed, he gives no explanation at all, to show why hostility or fear *should* in every case be essential. He points out that a single item of humor may have many different emotional flavors. He does not, however, explain why one of these two particular flavors must always be present.

#### 3. A Test of Koestler's Theory : Unintentional Humor

In this section, I shall analyze five examples of unintentional humor taken from *The New Yorker*. As I wrote in the introduction to this paper, with respect to each of these items, I shall attempt to determine to what extent it shows the features that Koestler claims are universal features of humor, and to what extent Koestler's theory succeeds in explaining why it is funny.

The first item that I shall examine reads as follows :

[I] The first ice cream cone rolling machine was invented in 1924, but the first ice cream cone dates back to 1904 at the Louisiana Purchase Exposition. An ice cream salesman purportedly gave his lady friend an ice cream sandwich and some flowers and she used one layer of her sandwich to make a vase for the flowers, rolling it in the shape of a cone. She did the same with the other layer of the sandwich to hold the ice cream. —*Youngstown (Ohio) Daily Vindicator*.

Then it was time to go home and get cleaned up.<sup>26</sup>

I shall refer to this as item [I]. The informational article that forms the first part of this item was, of course, quoted by *The New Yorker* from a newspaper called the *Youngstown Daily Vindicator*. The comment "Then it was time to go home and get cleaned up" was made by an editor at *The New Yorker*, and was intended to be funny.

To my taste, item [I] is mildly funny. I would explain its humorous effect as follows. The article from the newspaper is clearly meant to entertain, but it is meant to entertain by instructing: it instructs the reader on a historical event of some slight importance, and the reader learns. The comment by the editor at *The New Yorker*, of course, suggests that the lady in question, in the course of manipulating her ice cream sandwich in the ways described, got ice cream on herself and her clothes and had to go home to get cleaned up. Given the date of the occurrence, 1904, and the occasion, the reader might well imagine a very proper, formal lady wearing a long, elegant dress, and might well imagine her being very frustrated at getting ice cream on it. The reader first thinks of the occurrence in question, then, as a historical event of some slight significance, and then suddenly is led to think of it in a very different way indeed, viz., as an occurrence that consists simply in a grown woman spilling ice cream on herself like a child. The mental set associated with the first way of viewing the situation is fundamentally serious and thus involves a small degree of tension, but this seriousness and tension are inappropriate to the second way of viewing the situation, and so the tension is released in smiling, or, perhaps, a chuckle.

I think that Koestler's theory fits item [I] rather well. It is, I think, plausible to claim that two frames of reference come into play here. These can, perhaps, be identified as human history, or the history of minor events, on the one hand, and petty daily failure and frustration on the other. I see no reason to deny that these function in the present instance *as* frames of reference. It can, perhaps, be maintained that these two frames of reference are mutually incompatible in that adopting first the one and then the other encourages the typical reader to form two different mental sets that are not simultaneously tenable. The mental set encouraged by the first frame of reference ("Let's learn something about history!") is purposeful, but that encouraged by the second ("What an awful mess!") is not. The reader does shift from the first frame of reference to the second, and when he does, the slight tension associated with the first is released. It is, moreover, plausible to claim that the comment added by the *New Yorker* editor is somewhat hostile, in two ways. First, it suggests that the lady who figures in the article was a somewhat foolish and clumsy person. Secondly, it turns the article to comic purposes, and this, I think, tends, if only momentarily, to make the writer of the article appear stiff and pedantic, for he did

not intend his article to be funny.

Here is another item of humor from *The New Yorker*:

[II]

PYRRHIC VICTORY DEPARTMENT

*[Letter received by a member of the Dartmouth College Class of '56]*

DEAR CLASSMATES:

Our tremendously successful and never to be forgotten 25th Reunion marked another turning point for the Class of 1956. Having passed this memorable milestone, we are now eligible to participate in the Dartmouth Bequest and Estate Planning Program.<sup>27</sup>

"PYRRHIC VICTORY DEPARTMENT" is a heading added by the editor at *The New Yorker* to enhance the humorous effect of the item. A Pyrrhic victory is a victory won or a goal gained at too high a cost. Bequests and estate planning, of course, have to do with leaving one's wealth to others at one's death.

To my taste, this item is very funny indeed. But why does it elicit laughter? I think it is fair to say that the first sentence tends to fill the reader's mind with ideas of success, memorable experiences, and upward progress, and thus creates a light, happy, excited, upbeat mood. In sharp contrast, the second sentence brings thoughts of aging and death, and thus tends to create a downbeat, gloomy mood. Thus, this item is rather unusual among items of humor, in that the shift is from a light mood to a heavy one, whereas the shift is usually from the serious to the light. All this suggests, I think, that the emotional dynamics of this item are best analyzed as follows. The happy, optimistic feelings evoked by the first sentence are undermined by the downbeat, gloomy thoughts stimulated by the second sentence. For this reason, these happy feelings become psychologically unsustainable, and thus are released in a laugh.

How well does Koestler's theory fit item [II]? I think that it fails to fit at one important point. I have in mind Koestler's assertion that hostility or fear is essential to every item of humor and is always among the feelings to which the joker appeals and among the emotions that his listener discharges through laughter or smiling (see pages 8-9 above). What role, in fact, do hostility and fear play in item [II]? I can think of no reason to say that hostility plays any role at all here. As for fear, the second sentence, with its reference to bequests and estate planning, i.e., planning for one's death, might to a certain extent activate fear of death in some readers. However, if my analysis of item [II] is correct, what is discharged is not the emotional content of the second sentence, but rather

the happy, upbeat excitement generated by the first sentence. Therefore, if my analysis is correct, contrary to Koestler, the emotions discharged in this case contain no element of hostility or fear, but consist entirely of positive feelings. Moreover, what is essential to the emotional dynamics of this item, as I have analyzed it, is that the second sentence tends to generate negative feelings and thereby undermines the positive feelings generated by the first sentence; it is not necessary to the humorous effect that these negative feelings include elements of hostility or fear in particular. Taken together with the fact that the emotions discharged do not include hostility or fear, this suggests, contrary to Koestler, that the element of hostility or fear is not essential to humor.

The next item that I shall examine is short and, to me, very funny:

[III]

# IMPORTED BEDSPREADS BY GLOMAR

Leaf design embroidered on fine polyester voile. Machine washable in champagne.

—*Adv. in the Seattle Times.*

And that, friends, is living.<sup>28</sup>

This advertisement, quoted by *The New Yorker* from the *Seattle Times*, contains a misprint which perhaps represents a computer error of some sort. Clearly, the copywriter intended something like “Machine washable in warm water.” The comment “And that, friends, is living” was made by the editor at *The New Yorker*; as used here, “living” means “living well,” “living high,” or “living luxuriously.” The misprint suggests that some people are in a position to wash their bedspreads in champagne and might quite reasonably be expected to do so.

How are the emotional dynamics to be described in this case? Certainly there is nothing funny in this item until one reaches the word “champagne.” This word generates an absurdity, in that it is absurd to imagine people washing bedspreads in champagne. This absurdity, of course, is not a logical or conceptual absurdity, but rather what one might call a practical absurdity. In a way, it fits into the context very well: absurd though it is to imagine people washing bedspreads in champagne, it suggests a high degree of luxury, and the expressions “imported,” “by Glomar,” and “fine.....voile,” which precede the reference to champagne, all suggest high quality and luxury, too. Now it appears safe to assume that for most readers of this item, what one might call “normal seriousness” prevails until they see the word “champagne.” Normal seriousness here includes the significant tension involved in the effort to read and understand the advertisement. But then the ab-



surdity generated by the word "champagne" undermines this serious mood and thus causes the tension that it entails to be discharged in laughter or smiling. The comment by the *New Yorker* editor sustains the comic effect in several ways. First, it encourages the reader to dwell upon the absurdity. Secondly, the tone of this comment, in contrast to the formal, somewhat pretentious tone of the advertisement, is very informal, primarily due to the inclusion of the word "friends" and the use of the word "living" in the sense explained above. This informality, too, helps to undermine the "normotension" that the advertisement sustains up to the misprint "champagne."

Perhaps it is worthwhile to note, parenthetically, that in many cases, holding an absurd image in one's mind for some time—e.g., the image of a rich lady washing a fine bedspread in a washing machine with champagne instead of water—proves a delectable experience. Why is this? Perhaps it is because in the cases in question, holding the absurd image prolongs a pleasurable discharge of emotional tension.

Does Koestler's account of how a joke works apply to item [III]? I have given reason to believe that his account does fit the joke about the marquis rather well (see pages 3-4 and 10 above). Let us, then, compare this joke with item [III]. The first part of the joke about the marquis serves to make a certain situation the object of the reader's attention: I mean the situation in which the marquis, the wife, and the bishop find themselves when the marquis steps into the room. It also gets the reader to perceive that situation in a certain frame of reference. The remainder of the joke leaves that same situation as the object of the reader's attention, but gets him to perceive it in a different frame of reference. Thus, the workings of the joke about the marquis show two features that the workings of any item of humor must show if they are to accord with Koestler's theory: (1) an intellectual transition takes place (from one frame of reference to another), but the object of the reader's attention remains the same through that transition; and (2) the way that object of attention is perceived in the second part of the joke is different from the way it is perceived in the first part (for when the reader comes to the second part of the joke, he suddenly comes to perceive the object of his attention, the subject matter of the joke, in a different frame of reference). Now what about the workings of item [III]? Do they too show these two features? I think that this is a delicate issue, and I shall approach it by putting a series of questions. First, then, in the case of item [III], precisely what is the object of the reader's attention up to the point at which he reads the word "champagne"? I think that the answer is clear: in the case of the ordinary reader, the object of attention is simply the subject matter of the advertisement—that is to say, the

bedspreads being advertised. The object of attention is not, I think, any *situation*, for the advertisement does not describe any situation. To be sure, an advertising man who felt a strong professional interest in the relative effectiveness of different methods and styles of advertising might focus his attention not on the subject matter of the advertisement, the bedspreads, but rather on the advertisement itself as an effort in sales promotion. Clearly, however, this represents an unusual sort of case. My next question is this: Precisely what is the object of the reader's attention just after he assimilates (reads and takes in the import of) the word "champagne"? Does his attention remain fixed on the same object, the bedspreads that form the subject matter of the advertisement, or does it jump to a new object? This is, I think, an especially delicate question, but, judging by my own reactions, I think it accurate to say that the reader's attention does not remain focussed on the bedspreads, but rather jumps to a new object—viz., the absurd image of a person washing bedspreads in a washing machine in champagne. Now let us ask: Upon assimilating the word "champagne," does the reader suddenly come to see the bedspreads in a new perspective? I see no reason to say so. Both just before and after he assimilates the word "champagne," he perceives the bedspreads simply as machine-washable bedspreads, imported by Glomar, that show a leaf design embroidered on polyester voile. In short, an intellectual transition does occur in the case of item [III]. It is not, however, a transition from perceiving a situation in one frame of reference to perceiving that same situation in a different frame of reference. It is, rather, a transition from reading a description of physical objects of a certain type and forming an incipient judgment of their value, to forming an absurd image that involves physical objects of that type. The transition is not from one frame of reference to another, but rather from intellectual activity of one description to intellectual activity of another description. But if this analysis is correct, then, of course, Koestler's account of how a joke works does not apply to item [III].

Clearly, fear plays no role at all in the emotional dynamics of item [III]. It seems almost equally clear that hostility plays no role. If my analysis of this item is correct, the tension discharged in this case is simply the tension involved in the effort to understand and evaluate the contents of the advertisement, and this does not include any element of hostility. It is perhaps plausible to say that the act of quoting the advertisement complete with the misprint and then adding a comment that leads the reader to linger over the absurdity, as the editor at *The New Yorker* does, shows hostility or at least a lack of sympathy for the Glomar company, or the *Seattle Times*, or the copywriter at the *Seattle Times*, for the misprint does make them look slightly silly. Item [III], however, would be very funny

as it appeared originally in the *Seattle Times*, without any comment. Therefore, even if the actions of the *New Yorker* editor manifest hostility, that hostility is not essential to the comic effect. Perhaps it will be said that even as it appeared in the *Seattle Times*, this item will to a degree excite the reader to contempt for Glomar, the newspaper, or the copy-writer. But this, I think, depends on the personality of the reader.

The next item that I shall examine reads as follows:

[IV]                      HOW'S THAT AGAIN? DEPARTMENT

[From a letter to the editor [of] *Harper's* by a member of the Nuclear Regulatory Commission]

There is a fifty-year pattern to U.S. energy pricing, in which the government, in the name of protecting us from supply shortage and high prices, actually follows policies designed to prevent the reverse.<sup>29</sup>

The question "How's that again?" which forms the first part of the heading added by the editor at *The New Yorker*, is an informal equivalent of "I didn't understand; please say it once more." "How's that again?" is not really a regular department in *The New Yorker*. *Harper's* is a well-known magazine. It is safe to say, and important to note, that for the average educated native speaker of English, the final clause of the passage quoted by *The New Yorker*, i.e., the clause "actually follows policies designed to prevent the reverse," is incomprehensible on first reading. As a whole, this passage is not well written: for example, "fifty-year pattern" is ambiguous, "in the name of" is a poor choice of words, and "shortage" and "prices" are not parallel. The fact that the final clause is incomprehensible on first reading is perhaps due to a combination of an ill-chosen word and a misprint. Specifically, it appears that "actually" should not have been inserted by the writer at all, and that "prevent" is a misprint for "promote." If "actually" is deleted and "prevent" is changed to "promote," then the entire passage becomes easy to understand. The insertion of the word "actually" greatly adds to the confusion, because it strongly encourages the reader to think that "prevent" is *not* a misprint. As it stands, with "actually" and "prevent," the passage quoted has an unintended meaning which can be grasped with a little thought. This unintended meaning is that the U.S. government follows energy-pricing policies that are designed to prevent low prices and prevent the development of a plentiful supply of energy.

It is important to note, too, that the passage quoted is funny at first sight, even before one figures out the intended and unintended meanings. Let us ask why this is. I think

that the emotional dynamics are the following. The reader approaches the quoted passage seriously and tries to understand it. Both the *New Yorker* heading, which suggests that the passage will be difficult to understand, and the opening words of the passage itself, which carry a formal, serious tone, encourage the reader to take this approach. But then the final clause is so confusing, and so obviously ill-phrased, that the reader, partly on account of the difficulty of comprehending, and partly on account of the silliness of the writer's wording, momentarily gives up the effort, and the tension entailed by the effort is discharged in laughter or smiling. Perhaps, too, some readers expect or half expect to understand the passage, and when they don't, the tension that is associated with that expectation is discharged.

There are several other ways in which a reader might react to the passage in question. Having made out the unintended meaning, viz., that the U.S. government deliberately acts in such a way as to keep energy prices high and the supply of energy low, a reader might laugh because he thinks it absurd to say that the government would follow such policies, or else because, far from thinking it absurd to say this, he thinks that the writer has unintentionally stated the deplorable fact that the government does follow such policies. I myself did not react in either of these ways, however, and I will base my discussion of item [IV] on my first analysis of its emotional dynamics.

How well does Koestler's theory explain the comic effect of item [IV]? The answer, I think, is not well at all, for frames of reference have nothing to do with the effect in this case. In the first place, in this case, thinking of a situation in a certain frame of reference is not what causes tension to build up. What causes tension to build up is something fundamentally different, viz., the effort to understand a comparatively complex and poorly written passage. In the second place, in this case, making an intellectual leap to a frame of reference is not what leads to a discharge of tension. It is, again, something fundamentally different, viz., momentarily giving up the effort to understand a written passage, that leads to laughter here.

As I have said, Koestler takes the position that the biological function of laughter is to discharge unneeded emotional tension (see page 8 above). The item under discussion serves to confirm this particular point in his theory rather well. For in this case, the reader's laugh or smile serves to discharge tension that he has built up in vain in that he has not succeeded in his first effort to understand the passage. Perhaps it is not difficult to imagine cases in which failure in a physical effort, as opposed to an intellectual one, leads to laughter. Two boys, dressed in good clothes, decide to take a shortcut home.

### Arthur Koestler's Theory of Humor

This involves jumping over a stream. The jump is wide, but not impossible. The first boy jumps successfully. The second boy jumps short and falls into the water, unhurt but wet and dirty. It would be quite natural for both boys to laugh at this, if they don't perceive the consequences to be too serious. It might be that they laugh partly because at first they perceived the second boy as an athletic daredevil, but then came to see him as a fool when he fell in. If so, Koestler's theory explains this element in their laughter rather well. But it appears reasonable to suggest that in part, the second boy laughs simply because the apprehension and tension associated with the effort to jump across becomes redundant once he has clearly failed. In this case, he laughs not because he has come to view his situation differently, but because his situation has changed completely, and the apprehension and tension that were appropriate to his former situation of a second ago are now inappropriate. The first boy might well identify with the second to a certain extent, and thus laugh for the same reason. This example suggests a criticism of Koestler's theory which, if sound, is important. To view laughter as Koestler does is to view it as the result of making sudden leaps from one frame of reference to another, and this is to view it as the result of a sort of intellectual acrobatics. But this view of laughter is perhaps overly intellectualistic. The boy who tenses, physically and psychologically, to attempt to leap across the stream, falls short, and laughs away his tension, leaps physically, not intellectually, into a position in which his tension is redundant. Surely there occur many cases of this type.

The last item from *The New Yorker* that I shall examine reads as follows:

[V] SAN BERNARDINO—Norton Air Force Base transport pilots will literally go out of their way to avoid a mid-air collision with a private plane in the crowded skies above the Inland Empire, officials at a base public flying safety seminar said Sunday.  
—*San Bernardino (Calif.) Sun*.

Talk about your friendly skies!<sup>30</sup>

"Inland Empire" is, apparently, an informal name for the area around San Bernardino, California.

The reporter who wrote this sentence for the *San Bernardino Sun* did not succeed in saying what he meant to say, and the humor of this item arises from this fact. In order to understand the humor here, it is necessary to distinguish three things: what the reporter intended to say; what his words actually mean, which is not the same thing as

what he intended to say; and a certain impression he conveys, an impression that is the outcome of a sort of interaction between his intended meaning and the actual meaning of his words. I shall now explain these three things in this order, and then explain the meaning of the ironical comment added by the editor at *The New Yorker*.

The reporter intended the words "will.....go out of their way" to be taken in a broad sense in which they mean something like "will make supererogatory efforts," or "will take pains," or "will go to some trouble." By inserting the word "literally," he meant to emphasize that the pilots will make efforts to avoid collisions. Thus, his intended meaning is something like this: You can be sure that Norton Air Force Base transport pilots will, in various ways, make considerable efforts to see to it that mid-air collisions with private airplanes do not occur. This, however, is not what his words actually mean, for he has misused the word "literally." To say that the transport pilots will literally go out of their way to avoid a collision is to say that they will go out of their way in the strict sense of the expression. That is, it is to say simply that if one of these pilots, while flying his airplane, sees that he is on a collision course, then he will change course, as by banking to the left or the right, diving to a lower altitude, or whatnot. Thus, what the reporter actually said is simply this: A Norton Air Force Base transport pilot who sees that he is on a collision course with a private airplane can be expected to maneuver his own airplane in order to avoid a collision. It is clear, however, that he intended to *emphasize* the willingness of the transport pilots to "go out of their way." Thus, to a reader who knows the true meaning of the word "literally," the reporter unintentionally conveys the impression that he is emphasizing the willingness of the transport pilots to change course in order to avoid collisions, as if this willingness did not go without saying, but were, rather, a remarkable indication of concern and benevolence on the part of the pilots. Note that to suggest that it is remarkable that the transport pilots are willing to change course in order to avoid mid-air collisions is to suggest that these pilots probably are not willing to do much beyond this to see to it that mid-air collisions do not occur. The comment "Talk about your friendly skies!" was, of course, added by the editor at *The New Yorker*. It contains an allusion to a well-known series of advertisements by United Airlines, advertisements which feature the words "Fly the friendly skies of United!" i.e., choose United Airlines because the staff will be friendly to you. Taken straight, in the present context, "Talk about your friendly skies!" means "Those transport pilots really are very friendly and considerate in their attitude towards private pilots!" This comment, however, is definitely intended to be taken ironically: the editor clearly intended to suggest that if it is

### Arthur Koestler's Theory of Humor

remarkable that the transport pilots are willing to take the utterly basic step of changing course to avoid collisions, then perhaps they are not very friendly or careful at all.

What are the emotional dynamics of item [V]? I think that they can be described as follows. The reader approaches the news story in a serious frame of mind. The newspaper dateline and the opening words of the story encourage him to do so. Very quickly, however, he encounters an absurdity: the absurdity of emphasizing that the transport pilots are willing to change course in order to avoid mid-air collisions and presenting this as a news story. (The reporter who wrote the story does not, of course, actually emphasize the fact that the pilots are willing to change course, but, as I have explained, he gives the impression that he emphasizes it.) This absurdity undermines the serious mood in which the reader began, and the tension associated with that mood is spilled in a laugh or a smile.

Does Koestler's account of how a joke works apply to item [V]? I find it difficult to answer this question, but it appears to me that the answer is no. As I have explained, the reader approaches the news story about the transport pilots in a serious frame of mind, and subsequently that frame of mind and the tension it entails are undermined by an absurdity. Now as I have explained, according to Koestler, the initial part of an item of humor describes, alludes to, or suggests a situation or idea, and encourages the subject to perceive it in a certain frame of reference. Perceiving it in that frame of reference, he says, naturally activates or builds up emotional excitement. The final part of the item of humor, however, he adds, leads the subject suddenly to conceive of the situation or idea in question in terms of an entirely different frame of reference, and in consequence the excitement that has been activated or built up is discharged in laughter or smiling (see pages 9-10 above). Let us, then, consider the following question. In the case of item [V], precisely what is it that causes the tension subsequently discharged to be built up? If my account of the emotional dynamics of this item is correct, merely reading the dateline ("SAN BERNARDINO") and the opening words of the story ("Norton Air Force Base....."), or the dateline alone, encourages the reader to adopt a serious frame of mind, and this frame of mind entails the tension subsequently discharged in a laugh. But clearly, the words "SAN BERNARDINO," or even these words plus the opening few words of the news story, do not describe, allude to, or suggest any situation or idea that the reader subsequently comes to view in a second frame of reference. This alone suffices to show that Koestler's account of how a joke works does not apply to item [V]. In the case of item [V], it is not a transition from perceiving a situation in one frame of refer-

ence to perceiving that same situation in another frame of reference that causes tension to be discharged, but something quite different—viz., a transition from reading and attempting to evaluate a news story, to recognizing an absurdity.

#### 4. Conclusions

Koestler's theory does describe the structure and dynamics of some items of humor rather well. The joke about the marquis is an example (see pages 3-4, 10, and 17 above). Contrary to Koestler, however, it is not the case that two or more frames of reference figure in the logical structure of every item of humor. Item [IV], the one headed "HOW'S THAT AGAIN? DEPARTMENT," and my own example of the two boys who attempt to jump across a stream, serve, I think, to make this clear (see pages 19-21 above). I have discovered no reason to doubt the truth of Koestler's claim that the biological function of laughter and smiling is to discharge redundant emotional tension. His claim that the element of hostility or fear is essential to humor is, however, highly questionable. Item [II], headed "PYRRHIC VICTORY DEPARTMENT," and item [III], the one that consists of an advertisement for bedspreads plus a comment by the editor at *The New Yorker*, show clearly that neither hostility nor fear need be among the feelings discharged in laughter. Moreover, I think it fair to say that my discussion of these two items gives reason to suspect that neither hostility nor fear need be among the feelings to which a joker or humorous item appeals (see pages 15-18 above). Koestler's account of how a joke works does not apply to all items of humor. It appears not to apply to items which turn on the sudden recognition of an absurdity, and in particular, it does not apply to item [III] or to item [V], the one that begins with the short news story about the transport pilots (see pages 16-18 and 21-23 above).

In sum, Koestler's theory does fit some items of humor rather well. As a general theory of humor, however, it fails. To formulate an adequate general theory of humor is surely a challenging and worthwhile goal, but one that lies beyond the scope of this paper.

#### NOTES

- 1) *Encyclopaedia Britannica, Macropaedia* Volume 9, 1980, article "Humour and Wit," page 5, left column.
- 2) See *Britannica*, page 5, left column.
- 3) *Britannica*, page 6, left column.
- 4) *Britannica*, page 6, left column.
- 5) *Britannica*, page 5, right column.
- 6) *Britannica*, pages 5-6.
- 7) *Britannica*, page 6, left column.



Arthur Koestler's Theory of Humor

- 8) *Britannica*, page 5, right column.
- 9) *Britannica*, page 6, left column.
- 10) *Britannica*, page 8, left column.
- 11) *Britannica*, page 5, right column.
- 12) *Britannica*, page 6, left column.
- 13) *The Random House College Dictionary*, Revised Edition, Jess Stern, Editor in Chief, 1975, Random House, Inc., under "frame of reference."
- 14) *Britannica*, page 6, left column.
- 15) *Britannica*, page 6, left column.
- 16) *Britannica*, page 6.
- 17) *Britannica*, page 6, right column.
- 18) *Britannica*, pages 6-7.
- 19) For all these points, see *Britannica*, page 6, right column.
- 20) *Britannica*, page 8, right column.
- 21) *Britannica*, page 6, right column.
- 22) For all these points, see *Britannica*, page 7, left column.
- 23) *Britannica*, page 7, right column.
- 24) See *Britannica*, page 9.
- 25) *Britannica*, page 5, right column.
- 26) *The New Yorker*, April 5, 1982, page 52.
- 27) *The New Yorker*, April 5, 1982, page 179.
- 28) *The New Yorker*, April 5, 1982, page 179.
- 29) *The New Yorker*, April 19, 1982, page 178.
- 30) *The New Yorker*, April 5, 1982, page 200.