CHAPTER 2
LANGUAGE AND LOGIC

TYPES OF DISPUTES

Despite how we feel about them disputes are a reality. Although there are occasions however when they are undoubtedly both important and unavoidable often we can eliminate them, or reduce them, or at least, significantly clarify them. Among other things, in this chapter we will provide some suggestions about how to minimize disputes, and how to handle various kinds of disputes once they arise. We also discuss several important points about definitions and language and the role definitions play in disputes.

DISPUTES IN BELIEF AND DISPUTES IN ATTITUDE

One way of classifying disputes is by determining whether they involve disagreements in belief, or disagreements in attitude. (Roughly, a disagreement in belief is a disagreement about the way the world is, while a disagreement in attitude is a disagreement about how we feel about things.) Although some disputes involve disagreements in both belief and attitude, others involve disagreements in belief only, and still others involve disagreements in attitude only. When Jones says, "Unfortunately, Graham Chapman died of cancer," and Smith retorts, "No, he died of a heart attack, and besides, who cares?" clearly Jones and Smith are disagreeing in both belief and attitude. However when Jones says, "Unfortunately, Graham Chapman died of cancer," and Smith responds "No, he didn't, thank goodness," it is obvious that the two are disagreeing in belief only. Finally, if Jones says, "Unfortunately, Graham Chapman died of cancer," and Smith counters with, "I know, but so what?" the two are apparently disagreeing in attitude only.

Disputes in attitude arise largely because of the use of emotionally charged words. Instead of using a word like "government official," which is emotionally neutral, we'll use the term "public servant" which expresses a favorable attitude toward a government official. Alternately, we'll use "bureaucrat," which expresses an unfavorable attitude toward the same individual.

Although it might be rhetorically effective to use emotionally charged words, when we are trying to be logical it is better to use terms with less emotive impact. By doing this we can often curtail disputes in attitude. Besides this, it is wise to remember that we not only frequently do have, but also, we are not contradicting each other when we have, different attitudes toward things. When, for example, Jones says, "I like X," and Smith responds, "I dislike X," the two are not contradicting each other since both of their claims can be true.

VERBAL DISPUTES

Let's call the disputes in belief we have been discussing "genuine disputes in belief." We can contrast them with another type of dispute in belief which we will identify as "verbal disputes." Verbal disputes often arise when the disputants simply mean something different by a particular word or phrase. Unfortunately however, each person fails to recognize that the other fellow simply means something else. Thus, suppose Jones says, "The prospector got some gold from the bank," meaning that he found some gold at the edge of a river, while Smith responds, "No. He never goes to banks," by which he means that the prospector never visits financial institutions. When this type of verbal dispute in belief arises it does so because a word or phrase is ambiguous. (A word or phrase is "ambiguous" when it has two or more distinct meanings. Words like "bar," "bank," and "man" are ambiguous.) Once we have had an opportunity to examine lexical definitions we will see how to resolve these sorts of verbal disputes.

A second type of verbal dispute arises when a word or phrase is vague. Words and phrases are "vague" when there are borderline cases where it is impossible to decide whether they apply, because their meanings do not have sharp boundaries. Words like "mountain," "tall," and even "bachelor," are vague. (To see this, ask yourself how high a mound of earth must be to be a mountain, or how old a male who is unmarried needs to be before he is a bachelor.) After we have discussed précising definitions, we will briefly examine one way to avoid these sorts of verbal disputes.

Once we begin noticing different types of disputes we are apt to misconstrue a certain type of genuine dispute as a verbal dispute, or, as a dispute in attitudes. This kind of dispute often involves evaluative terms. Suppose, for example, Jones' claims that Robinson is a good father because he works hard for his

family and tries to provide them with what they need financially. Smith, on the other hand, disagrees because Robinson pays little attention to their emotional needs. In these sorts of cases the two disputants are using different sets of criteria. (In this instance, Jones' criteria for being a good father are quite different from Smith's.) While we should view these sorts of disputes as genuine disputes in belief, they are among the most intractable kinds of disputes there are.

INTENSION AND EXTENSION

In our language not only do some words and phrases have a meaning they also function as referring expressions. These include common nouns like "bachelor," "dog," and "unicorn," and proper names like "Joan," and "Bill."   Also, however, definite descriptions (e.g., the "first President of the U. S.") and indefinite descriptions (e.g., "a happy camper"), function in this way. We say of such words and phrases that they have not only an intension (or a connotation), but also an extension (or a denotation). Their intension (or their connotation) is their meaning, and their extension (or their denotation) is the set of objects they refer to. Thus, the intension of "bachelor" is an unmarried man, while its extension is the set of all bachelors in the world.

Although it might seem odd to speak of proper names like "Joan" and "Bill" as having an intension (or meaning), they do play a role in our language.   At least they are not meaningless in the way in which words like "snicker-snack" and "bandersnach" are. Moreover, it may seem peculiar for us to speak of the extension of words like "unicorn," and "dragon."   After all, they don't succeed in picking out any objects in our world. They are, nonetheless, referring expressions. (In these sorts of cases we will say that the extension of the term is the empty set. This is merely a fancy way of saying that the term is a referring expression, though it does not succeed in referring to any existing object.)

Several points about intension and extension are, perhaps, worth noting here. First, the intension of a term determines its extension. In other words, the meaning of a word identifies which objects if any it picks out in the world. Second, the extension of a term does not determine its intension. In other words, terms which pick out the same objects in the world might still have different meanings (e.g., "George Washington" and "the first President of the U.S."). Third, when we list words in order of increasing intension we are also normally listing them in order of decreasing extension. That is to say, as words get more complex in meaning, they tend to refer to fewer objects. Thus, the list of terms, "bachelor," "fat bachelor," and "fat happy bachelor," is a list both in order of increasing intension and decreasing extension.

KINDS OF DEFINITIONS

DENOTATIVE DEFINITIONS

We sometimes try to explain the meaning of a word by mentioning at least several objects it denotes. Although we might not view these strictly as definitions, they are, nevertheless, frequently called "denotative definitions."

Among denotative definitions, ostensive definitions stand out as especially common and useful. Ostensive definitions are definitions by pointing. When a young child wants to know the meaning of the word "dog" we are apt to point to a dog and call out the word "dog." This is an example of an ostensive definition. A second type of denotative definition worth mentioning is a definition by partial enumeration. Definitions by partial enumeration are simply lists of objects, or types of objects, to which the word refers. The list, "beagle," "cocker spaniel," "dachshund," "greyhound," "poodle," provides an example of a definition by partial enumeration.

While denotative definitions might not really seem much like definitions, they do ultimately attempt to convey the meaning of a word, at least indirectly. For the hope is that by citing the objects the word refers to, the people we are talking with will come to see what that word means. However, let's turn now to definitions in the more ordinary sense of the term.

CONNOTATIVE DEFINITIONS

Connotative definitions are usually formulated in the following three ways:

1) X is Y. (Example: A bachelor is an unmarried man.)
2) [The word] "X" means Y. (Example: The word "Bachelor" means unmarried man.)
3) X =DF. Y. (As an example: Bachelor =DF. unmarried man.)

In all these cases the term on the left ("bachelor" in the above examples) is the one being defined, and we call it the "definiendum." While we refer to the terms used to define this word ("unmarried man" in our example), collectively as the "definiens."

Among connotative definitions, perhaps five different kinds are worth mentioning, (1) persuasive definitions, (2) theoretical definitions, (3) précising definitions, (4) stipulative definitions, and (5) lexical definitions.

1. Persuasive Definitions: The purpose of a persuasive definition is to convince us to believe that something is the case and to get us to act accordingly. Frequently definitions of words like "freedom," "democracy," and "communism," are of this type. (E.g., taxation is the means by which bureaucrats rip off the people who have elected them.) While these sorts of definitions might be emotionally useful, we should avoid them when we are attempting to be logical.

2. Theoretical Definitions: Theoretical definitions are designed to explain a theory. Whether they are correct or not will depend, largely, on whether the theory they are an integral part of is correct. Newton's famous formula "F = ma" (i.e., Force = mass x acceleration), provides a good example of such a definition.

3. Precising Definitions: Precising definitions attempt to reduce the vagueness of a term by sharpening its boundaries. For example, we might decide to reduce the vagueness in the term "bachelor" by defining a bachelor as an unmarried man who is at least 21 years old. We often encounter précising definitions in the law and in the sciences. Such definitions do alter the meaning of the word they define to some extent. This is acceptable, however, if the revised meaning they provide is not radically different from the original.

Sometimes by providing précising definitions we can reduce the potential for verbal disputes that are based on a term's vagueness. When Martha and McDuff begin arguing about whether a bicycle is a vehicle (Cf. "Questions," below) we might try to get them to recognize that the term "vehicle" contains some vagueness. Once they have seen this, we might even get them to agree to reduce this vagueness by providing a précising definition.

4. Stipulative Definitions: Stipulative definitions are frequently provided when we need to refer to a complex idea, but there simply is no word for that idea. A word is selected and assigned a meaning without any pretense that this is what that word really means. (E.g., by "a blue number" we mean any number greater than 17 but less than 36.)

While we cannot criticize stipulative definitions for being incorrect (and so, the objection, "But that isn't what the word means" is inappropriate); we can criticize them as unnecessary, or too vague to be useful.

5. Lexical Definitions: Unlike stipulative definitions, lexical definitions do attempt to capture the real meaning of a word and so can be either correct or incorrect. When we tell someone that "intractable" means not easily governed, or obstinate, this is the kind of definition we are providing. Roughly, lexical definitions are the kinds of definitions found in dictionaries. (Here it needs to be born in mind, though, that dictionaries are often concerned only with giving us an approximate meaning of the word.)

Frequently words that are first introduced in the language as stipulative definitions become, over time, lexical definitions. (Consider, for example, Winston Churchill's famous use of the expression "iron curtain.")

Besides synonymous definitions, definitions by genus and difference are perhaps the most common type of lexical definition. The essential characteristic of these definitions is we are defining the definiendum by using two terms in the definiens. For example, in the definition, "a bachelor is an unmarried man," we are defining the word "bachelor" in terms of "unmarried" and "man." In this definition the term "unmarried" is the difference, while the term "man" is the genus. (The difference, or difference term, qualifies, or says what kind of thing, the genus is.)

a. Resolving Verbal Disputes based on Ambiguity: As we noted earlier, sometimes disputes arise when the parties to the dispute use a word or phrase in different senses. We can settle these kinds of disputes by appealing to lexical definitions. Thus, in the example of the dispute between Martha and McDuff about whether Martha's 1985 Mercedes is a new car (Cf. "Questions," below), all we need to do is to point out that the word "new" has two different lexical meanings: (1) recently purchased, and (2) this year's model. While Martha is using the term in sense (1), McDuff is using it in sense (2). If we are right about the word in

question the dispute should vanish. (If, however, we find only one party to the dispute using the term in a correct lexical sense, then we should recognize him as victorious.)

b. Rules for Evaluating Lexical Definitions: Lexical definitions can be faulted when they violate any of the following rules:

(1) The definition must be neither too broad nor too narrow. A definition is too broad when it includes objects in its definiens that it excludes from its definiendum. So if we define a bachelor as an unmarried person, our definition is too broad. On the other hand, a definition is too narrow when the definiens excludes objects included in the definiendum. If we define a bachelor as an unmarried man over 30, our definition is too narrow.

Oddly enough, a definition can be both too broad and too narrow. (E.g., a bachelor is an unmarried person over 30.)

(2) The definition must not be circular. A definition is circular when we use, in the definiens, the term we are trying to define in the definiendum. (E.g., A bachelor is a bachelor.) Alternately, although we do not use this term directly in the definiens, we use it when we attempt to define a term employed in the definiens. (We are violating this rule if we first define a brother as any male who has a sibling and then define a sibling as anyone who has a brother or sister.)

The rule that definitions should not be circular is of some philosophical interest. For it compels us to admit that we cannot adequately define every word in the language. Thus, if we define "P" in terms of "Q" and "R," the rule now prohibits us from defining "Q" in terms of either "P" or "Q." If we then go on to define "Q" in terms of "R" and "S," our definition of "S" cannot contain either "P," "Q," or "S," etc.

(3) A definition must state what is essential and not what is accidental. If we define "puberty" as the time in life when the two sexes first begin to get acquainted we are violating this condition. For while this is typically so, it is not an essential characteristic of puberty.

(4) A definition should not be negative when it can be affirmative. Whenever possible, we should not define by saying what something isn't but by saying what it is. However, it is permissible to define a term in a negative way when it is the negative of a term that we have already defined in a positive way. Thus, we can define "invalid" as not valid, if we have already defined the term "valid" positively.

(5) A definition should be clear and precise, not obscure or ambiguous. This rule only makes sense. We define to provide others with an explanation of the meaning of a word. If our definition is ambiguous or obscure those for whom we are defining it won't find our definition very helpful.

NECESSARY AND SUFFICIENT CONDITIONS

Often enough it seems all but impossible to find an adequate lexical definition for a term. When we are unable to construct such a definition, we frequently resort to looking for necessary, and/or sufficient, conditions for the application of the term.

A condition X is a necessary condition for Y just in case the occurrence of Y requires the occurrence of X. Being a male, for example, is a necessary condition for being a bachelor. In other words, in order for a thing to be a bachelor it must be a male. In contrast to this, a condition X is a sufficient condition for Y just in case the occurrence of X guarantees the occurrence of Y. So, for example, being a whale is a sufficient condition for being a mammal.

Except for the rule about a definition's neither being too broad nor too narrow the same principles that apply to constructing lexical definitions also apply to formulating necessary and sufficient conditions: The condition should not be circular. It should state only what is essential and not what is accidental. It should not be negative when it can be affirmative. Finally, it should always be expressed in clear and precise language.

There is an important connection between providing necessary and sufficient conditions and providing a lexical definition. While we may form a set of conditions that is necessary but not sufficient, or vice versa; if we should manage to construct a set of conditions that are both necessary and sufficient, that set will be a lexical definition. Therefore, the task of searching for necessary and sufficient conditions is weaker than the task of constructing a lexical definition.

UNIVERSAL STATEMENTS AND COUNTEREXAMPLES

Whenever anyone proposes either a necessary or a sufficient condition, or a lexical definition, they commit themselves to a claim that this is always true. Thus, the claim that "bachelor" means unmarried man

implies that all bachelors are unmarried men. Such claims are open to the possibility of being refuted by a counterexample. A counterexample is simply an example that runs counter to a universal claim. Suppose someone asserts that all swans are white. A counterexample to this claim would be a swan that was not white.

If a universal claim merely asserts that this is how our world is, a counterexample must be an existing object. We cannot, for example, refute the claim that all swans are white by pointing out that it is possible to imagine a nonwhite swan. An imaginary swan that isn't white will not do.

The universal claims lexical definitions and necessary and sufficient conditions imply, on the other hand, are supposed to be necessary. When we define a bachelor as an unmarried man we don't just mean that it is a fact that all bachelors are unmarried men. We mean that all bachelors must be unmarried men. Because of this an imaginary object may suffice as a counterexample. To refute the definition all we need to do is imagine a bachelor who is married, or a bachelor who is not a man.

QUESTIONS

A. TRUE/FALSE:

1. While the intension of a term determines its extension, its extension does not determine its intension.
2. Although the terms "unicorn" and "dragon" have different intensions, they have the same extension.
3. An ostensive definition is a "definition" given by means of pointing.
4. In the definition, "bashful" means shy, "bashful" is the term identified as the definiens.
5. The definition, "light is a form of electromagnetic radiation," is an example of a theoretical definition.
6. The purpose of a persuasive definition is to influence attitudes.
7. The definition, "man is a featherless biped," is poor because it violates one of our five rules.
8. A necessary condition for an object's being a rectangle is that it has four equal angles and four equal sides.
9. A sufficient condition for an argument's being valid is that it is sound.
10. A sufficient condition for a set of statements being inconsistent is that it contains a statement that is logically false.
11. An office building is a counterexample to the claim that being a dwelling is a sufficient condition for being a house.
12. Being a male duck is not only a necessary and sufficient condition but also an adequate lexical definition for being a drake.

B. MULTIPLECHOICE:

1. MARTHA: How do you like my new Mercedes McDuff?
   MCDUFF: That isn't a new Mercedes, Martha. It appears to me to be an '85 model.
      a. A genuine dispute in belief only.
      b. A dispute in attitude only.
      c. Both a genuine dispute in belief and a dispute in attitude.
      d. A dispute in belief that is verbal, and is based on an ambiguity.
      e. A dispute in belief that is verbal, and is based on a vague term.

2. MARTHA: I wish those children wouldn't ride their vehicles on my property, McDuff.
   MCDUFF: You mean their bicycles, Martha? They don't own any vehicles.
      a. A genuine dispute in belief only.
      b. A dispute in attitude only.
      c. Both a genuine dispute in belief and a dispute in attitude.
      d. A dispute in belief that is verbal, and is based on an ambiguity.
      e. A dispute in belief that is verbal, and is based on a vague term.

3. MARTHA: That rat Bullfinch cheats at games. Last night we were playing hangman and he tried to use "syzygy."
   MCDUFF: He doesn't cheat at all. "Syzygy" is a real word. He is just a good hangman player Martha.
      a. A genuine dispute in belief only.
      b. A dispute in attitude only.
      c. Both a genuine dispute in belief and a dispute in attitude.

d. A dispute in belief that is verbal, and is based on an ambiguity.

e. A dispute in belief that is verbal, and is based on a vague term.

4. MARTHA: Wasn't that a terrible film we saw at the Strand Cinema last night, McDuff?

   MCDUFF: Well, admittedly it wasn't a good movie, but I really enjoyed it anyway.

      a. A genuine dispute in belief only.

      b. A dispute in attitude only.

      c. Both a genuine dispute in belief and a dispute in attitude.

      d. A dispute in belief that is verbal, and is based on an ambiguity.

      e. A dispute in belief that is verbal, and is based on a vague term.

5. MARTHA: Your cat went to the bathroom on my new carpet again last night McDuff.

   MCDUFF: It wasn't my cat at all. It was your dog, and I saw him do it.

      a. A genuine dispute in belief only.

      b. A dispute in attitude only.

      c. Both a genuine dispute in belief and a dispute in attitude.

      d. A dispute in belief that is verbal, and is based on an ambiguity.

      e. A dispute in belief that is verbal, and is based on a vague term.

You ARE slow, so I'll repeat it. If I had touched her without my fingers crossed and in the hall, that would have constituted sex, and it would be impeachable.

EXERCISES

A. DISPUTES

Instructions: Identify the type of dispute involved in each of the cases below.
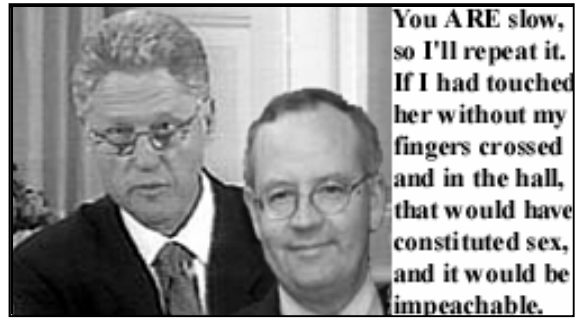
1. Bill: Barry Lyndon was a fine film. The scenery was breathtaking, the costumes were elegant, and the acting was superb.

Harry: I don't see how you can say that. I've seen poor corpses that had more of a plot.

2. "I don't know what you mean by 'glory,'" Alice said.

Humpty Dumpty smiled contemptuously. "Of course you don't--till I tell you. I meant 'there's a nice knock-down argument for you!'"

"But 'glory' doesn't mean 'a nice knock-down argument,'" Alice objected.

"When I use a word," Humpty Dumpty said, in a rather scornful tone, "it means just what I choose it to mean--neither more nor less."

"The question is," said Alice, "whether you can make words mean so many different things."

"The question is," said Humpty Dumpty, "which is to be master--that's all."

Alice was too much puzzled to say anything; so after a minute Humpty Dumpty began again. "They've a temper, some of them--particularly verbs: they're the proudest--adjectives you can do anything with, but not verbs--however, I can manage the whole lot of them! Impenetrability! That's what I say!"

"Would you tell me please," said Alice, "what that means?"

"Now you talk like a reasonable child," said Humpty Dumpty, looking very much pleased. "I meant by 'impenetrability' that we've had enough of that subject, and it would be just as well if you'd mention what you mean to do next, as I suppose you don't mean to stop here all the rest of your life." (Lewis Carroll, Through the Looking Glass)

3. Phil: Osama bin Laden is a patriot.

Larry: No he isn't. He is a terrorist.

B. DEFINITIONS

Instructions: Identify the rule(s) that the definitions below are violating.

1. A decanter is a container that holds liquids.
2. Living means not dead.
3. 'True' means something that is true, truly, in a true manner, truthfully.
4. A banana is something the incumbent party says that the economy slips on, during a recession.
5. 'Innocent' means not guilty.