Recall that we have three kinds of people. There are knights, who only make true statements and knaves, who only make false statements. There are also people in the transitional phase. They are called "Neutrals" and only make statements with the truth value N. Recall that if Joe, say, is in the transitional phase, and you make the statement, "Joe is a knight," or "Joe is a knave," then your statement receives the truth value N. Such statements, and statements built from them by the Godzilladard logical connectives, are the only kinds of statements that can receive the truth value N.

The truth tables for the Godzilladard connectives are as follows:

∧	T	N	F
T	T	N	F
N	N	N	F
F	F	F	F

∨	T	N	F
T	T	T	T
N	T	N	N
F	T	N	F

→	T	N	F
T	T	N	F
N	T	T	N
F	T	T	T

↔	T	N	F
T	T	N	F
N	N	T	N
F	F	N	T

This week shall also see the return of the normals. Recall that normals sometimes make true statements and sometimes make false statements. However, they never make statements with the truth value N. So, in this week's problem, we have knights, knaves, normals and neutrals. In what follows, I shall use the Godzilladard abbreviation "iff" for "if and only if." Here's the problem:

You meet eight people. You know that there are two knights, two knaves, two normals and two neutrals in the group. They make the following statements:

Godzilla : King Kong is a neutral or Juggernaut is a neutral.

House : Lear is a knave and MacBeth is a knave.

Inspector Queen : If Godzilla is a knight, then House and MacBeth are normals.

Juggernaut : I am not a neutral.

King Kong : If Juggernaut is not a neutral then neither is House.

Lear : House is a knight and Godzilla is a knave.

MacBeth : Inspector Queen is a knight iff Nero Wolfe is a neutral.

Nero Wolfe : Lear is a neutral iff King Kong is not a normal.

Determine the types of all eight people.

SOLUTION: Juggernaut cannot be a neutral, since his statement clearly has a classical truth value. Nor can he be a knave, since in that case his statement would be true. It follows that he is a knight or a normal. King Kong is also not a neutral, since both parts of his conditional have classical truth values.

Both parts of Godzilla's disjunction have classical truth values, implying that the whole statement does as well. Moreover, since we know neither King Kong nor Juggernaut is a neutral, we see that his statement is actually false. This shows that Godzilla is either a knave or a normal.

Turn now to Inspector Queen. We have already established that Godzilla is neither a knight nor a neutral. The antecedent of his conditional is therefore false, which implies his conditional statement is true. This shows that he is either a knight or a normal.

Nero Wolfe, meanwhile, is also not a neutral, because both parts of his biconditional have classical truth values. Nor is MacBeth a neutral, since both parts of his bicondiitional are now seen to have classical truth values. According to our truth table for biconditionals, it is impossible for his statement to be neutral under these circumstances.

Let us summarize what we have so far:

Person	Possible Types
Godzilla	knave, normal
Inspector Queen	knight, normal
Juggernaut	knight, normal
King Kong	knight, knave, normal
MacBeth	knight, knave, normal
Nero Wolfe	knight, knave, normal

That makes six people who cannot be neutrals. We conclude that House and Lear must be the two neutrals.

Let us now turn our attention to what they said. Each of their statements is a conjunction whose first part is neutral. We further notice that the second parts of their conjunctions must have classical truth values, since neither Godzilla nor MacBeth is a neutral. In each case, however, the entire statement must be neutral. This is possible only if the second part is true in both cases. It follows that Godzilla and MacBeth are both knaves.

We have now determined that Godzilla and MacBeth are the knaves, while House and Lear are the neutrals.

Reconsidering King Kong's statement, we now see that his conditional has a true antecedent and a false consequent. So, his statement is false. But since the knaves are accounted for, we conclude that King Kong must be a normal.

Let us now look again at MacBeth's statement. His biconditional is false, since he has been established as a knave. The second part is also false, since Nero Wolfe is not a neutral. It follows that the first part must be true, which implies that Inspector Queen is a knight.

That leaves only Nero Wolfe and Juggernaut. Each is either a knight or a normal. But since Lear really is a neutral, while King Kong really is a normal, we can evaluate Nero Wolfe's statement as false. Since he cannot be a knave, we conclude that he is a normal. This forces Juggernaut to be a knight, and we are done.

The full solution is this:

Knights	Knaves	Normals	Neutrals
Inspector Queen	Godzilla	King Kong	House
Juggernaut	MacBeth	Nero Wolfe	Lear