1. Possible worlds

Complete ways the world could, or could have, been.

2. Propositions

A proposition is a function from possible worlds into truth-values (true or false). More roughly and intuitively, a proposition is a rule for determining a truth-value as a function of the facts—of the way the world is. (p. 197)

$t$: a world in which Ted Sider is the teacher of philosophy of language

$r$: a world in which Rachael Briggs is the teacher of philosophy of language

$c$: a world in which Crispin Wright is the teacher of philosophy of language

<table>
<thead>
<tr>
<th>Proposition that</th>
<th>$t$</th>
<th>$r$</th>
<th>$c$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ted Sider is the teacher:</td>
<td>$T$</td>
<td>$F$</td>
<td>$F$</td>
</tr>
<tr>
<td>Proposition that the teacher is over 50:</td>
<td>$F$</td>
<td>$F$</td>
<td>$T$</td>
</tr>
<tr>
<td>Proposition that the teacher is male:</td>
<td>$T$</td>
<td>$F$</td>
<td>$T$</td>
</tr>
</tbody>
</table>

3. Context set

…the more fundamental way of representing the speaker’s presuppositions is … as a set of possible worlds, the possible worlds compatible with what is presupposed. This set, which I will call the context set, is the set of possible worlds recognized by the speaker to be the “live options” relevant to the conversation… [T]his representation is appropriate to a description of the conversational process in terms of its essential purposes. To engage in conversation is, essentially, to distinguish among alternative possible ways that things may be. (pp. 199–200)
4. Changing the context set

The purpose of conversations is to cut down on the context set. How? By making assertions:

To make an assertion is to reduce the context set in a particular way, provided that there are no objections from the other participants in the conversation. The particular way in which the context set is reduced is that all of the possible situations incompatible with what is said are eliminated. (p. 201)

5. Three principles

Sometimes one asserts a proposition other than the conventionally determined one. As with Grice, this happens when certain conversational principles would otherwise be violated:

**Principle 1** A proposition asserted is always true in some but not all of the possible worlds in the context set.

**Principle 2** Any assertive utterance should express a proposition, relative to each possible world in the context set, and that proposition should have a truth value in each possible world in the context set.

**Principle 3** The same proposition is expressed relative to each possible world in the context set.

6. Example: demonstratives

(ZA) That is either Zsa Zsa Gabor or Elizabeth Anscombe

Assuming Kripke and Kaplan are right: both demonstratives and proper names are rigid designators, and so this sentence expresses either a necessary truth or a necessary falsehood, violating principle 1.
7. Diagonal proposition

\( i \): A world in which Zsa Zsa Gabor is in the next room
\( j \): A world in which Elizabeth Anscombe is in the next room
\( k \): A world in which Tricia Cox Nixon is in the next room

evaluation worlds

\[
\begin{array}{ccc}
\text{context} & i & j & k \\
\text{worlds} & i & T & T & T \\
& j & T & T & T \\
& k & F & F & F \\
\end{array}
\]

Each row of this “two-dimensional matrix” represents the proposition that would be expressed by (ZA) if the world for that row were the actual context.

**Diagonal proposition (of a matrix):** The proposition that is true at a world, \( w \), if and only if: the proposition that would be expressed if the context were \( w \), is true when evaluated at world \( w \) (as specified by the matrix)

original matrix \[
\begin{array}{ccc}
i & j & k \\
i & T & T & T \\
j & T & T & T \\
k & F & F & F \\
\end{array}
\]

diagonal proposition \[
\begin{array}{ccc}
i & j & k \\
i & T & T & F \\
j & T & T & F \\
k & T & T & F \\
\end{array}
\]

new matrix \[
\begin{array}{ccc}
i & j & k \\
i & T & T & F \\
j & T & T & F \\
k & T & T & F \\
\end{array}
\]

(violates 1 and 3) \quad \Rightarrow \quad (does not violate either 1 or 3)

**Claim 1** Two-dimensional matrices governing the utterances of speakers must conform to principles 1–3

**Claim 2** When matrices based on the conventional meanings of sentences would violate principles 1–3, speakers often intend their utterances to be governed instead by matrices in which the diagonal proposition of the conventionally determined matrix is expressed relative to each world of the context set

3
8. Other applications

8.1 “Hesperus = Phosphorus”

\( i \): A world in which ‘Hesperus’ denotes Venus and ‘Phosphorus’ denotes Mars

\( j \): A world in which ‘Hesperus’ and ‘Phosphorus’ both denote Venus

\( k \): A world in which ‘Hesperus’ and ‘Phosphorus’ both denote Mars

<table>
<thead>
<tr>
<th>Original matrix</th>
<th>Diagonal proposition</th>
<th>New matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>( i )</td>
<td>( j )</td>
<td>( k )</td>
</tr>
<tr>
<td>( i )</td>
<td>( F )</td>
<td>( F )</td>
</tr>
<tr>
<td>( j )</td>
<td>( T )</td>
<td>( F )</td>
</tr>
<tr>
<td>( k )</td>
<td>( T )</td>
<td>( F )</td>
</tr>
</tbody>
</table>

(violates 1 and 3) (does not violate either 1 or 3)

8.2 “Sherlock Holmes does not exist”

\( i \): the actual world (‘Sherlock Holmes’ doesn’t denote anyone)

\( j \): a world in which Conan Doyle wrote historical accounts about a real detective named Sherlock Holmes

\( k \): a world in which Conan Doyle was himself a famous detective named Sherlock Holmes, and wrote the stories as autobiography under the pseudonym Sir Arthur Conan Doyle

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<tr>
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<th>Diagonal proposition</th>
<th>New matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>( i )</td>
<td>( j )</td>
<td>( k )</td>
</tr>
<tr>
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<td>( T )</td>
<td>( F )</td>
</tr>
<tr>
<td>( j )</td>
<td>( F )</td>
<td>( F )</td>
</tr>
<tr>
<td>( k )</td>
<td>( T )</td>
<td>( F )</td>
</tr>
</tbody>
</table>

(violates 3) (does not violate 3)