In many languages, including English, two adjacent obstruents cannot disagree in voicing. The feature \([± \text{voice}]\) has to spread over both of them.

- **example** \([ɛɡzæmpl\)] \([… gz …]\)
- **exception** \([ɛksɛpʃən\)] \([… ks …]\)
- **structure** \([strəkʃər\)] \([… kʃ …]\)
  etc.

So the phonological structure has to look like this:

\[
\begin{array}{c}
\text{[± voice]}\\
\text{[−son]} & \text{[−son]}
\end{array}
\]

and not like this:

\[
\begin{array}{c}
\text{[± voice]}\\
\text{[−son]} & \text{[−son]}
\end{array}
\]

What happens if two morphemes get put together?

- **trans** /trAnz/ + **fer** /fr/ \(\rightarrow\) \([trænsfr\)]
- **wide** /wId/ + **th** /θ/ \(\rightarrow\) \([wɪθ\)]

The second one changes the voicing of the first one. This is called regressive voicing assimilation. We can write the rule as follows, where the double cross-off shows that a connection is cut, and the dotted line shows that a new connection is formed.

**Regressive Voicing Assimilation**

\[
\begin{array}{c}
\text{[± voice]}\\
\text{[−son]} & \text{[−son]}
\end{array}
\]

When the adjacent obstruents are in separate words, they don’t usually have to agree in voicing. But when one of those words is a single phoneme, they do. One single-phoneme word is the “contracted” form of **is**: ’s. Notice what happens:

- **the book** /ðəbuk/ ’s /z/ \(\rightarrow\) \([ðəbʊks\)]

Here, the assimilation is in the other direction. So English also has a rule of progressive voicing assimilation, which applies across word boundaries.

**Progressive Voicing Assimilation**

\[
\begin{array}{c}
\text{[± voice]}\\
\text{[−son]} & \text{[−son]}
\end{array}
\]