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▶ JOHN CORCORAN AND SRIRAM NAMBIAR, Conversely: extrapropositional and prosentential.

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This self-contained lecture examines uses and misuses of the adverb *conversely* with special attention to logic and logic-related fields. Sometimes adding *conversely* after a conjunction such as *and* signals redundantly that a converse of what preceded will follow.

(1) Tarski read Church and, conversely, Church read Tarski.

In such cases, *conversely* serves as an *extrapropositional* constituent of the sentence in which it occurs: deleting *conversely* doesn't change the proposition expressed. Nevertheless it does introduce new implicatures: a speaker would implicate belief that the second sentence expresses a converse of what the first expresses.

Perhaps because such usage is familiar, the word *conversely* can be used as "sentential pronoun"—or *prosentence*—representing a sentence expressing a converse of what the preceding sentence expresses.

(2) Tarski read Church and conversely.

This would be understood as expressing the proposition expressed by (1).

Prosentential usage introduces ambiguity when the initial proposition has more than one converse. Confusion can occur if the initial proposition has non-equivalent converses.

Every proposition that is the negation of a false proposition is true and conversely.

One sense implies that every proposition that is the negation of a true proposition is false, which is true of course. But another sense, probably more likely, implies that every proposition that is true is the negation of a false proposition, which is false: the proposition that one precedes two is not a negation and thus is not the negation of a false proposition.

The above also applies to synonyms of *conversely* such as *vice versa*. Although *prosentence* has no synonym, extrapropositional constituents are sometimes called *redundant rhetoric*, *filler*, or *expletive*.

Authors discussed include Aristotle, Boole, De Morgan, Peirce, Frege, Russell, Tarski, and Church.