The semantic perspective on interpolation

1.1   notes on shoenfield

$T[\Gamma]$:

> Γ is a set of formulas in the theory T
>
> $T[\Gamma]$: theory obtained from T with Γ as additional (nonlogical) axioms

Extension of theory: may contains additional symbols and new theorems, and every symbol/theorem of the old language/theory is a symbol/theorem of the new language/theory

> elementary: from wikipedia: if all formulas of the language of the larger one with variables interpreted with elements of the smaller language hold in the smaller iff they hold in the larger.

Conservative extension of theory: T' is conservative extension of T if formulas in T which are theorems of T' are theorems in T.

> Hence additional formulas may only be theorems if they involve new symbols.

Reduction theorem for consistency: if a set of formulas in a theory is inconsistent, then there is a disjunction of negated formulas of the set which is a theorem of T

Chain: a sequence of structure, such that every one is an extension of the former

a chain is elementary if every element is an elementary extension of the former

Tarksi's Lemma: the union of an elementary chain is an elementary extension of each member

Regular set of formulas: every $x = y$ or $x \neq y$ is contained, and for every formula $A[x_1, \ldots, x_n]$ is contained (does not say if x_i is var or term)