With the addition of Well-Ordering, we have reached the final theoretical milestone. We now have all the axioms required for *ZFC*. In detail:

**Definition cardinals.1.** The theory *ZFC* has these axioms: Extensionality, Union, Pairs, Powersets, Infinity, Foundation, Well-Ordering and all instances of the Separation and Replacement schemes. Otherwise put, *ZFC* adds Well-Ordering to *ZF*.

*ZFC* stands for *Zermelo-Fraenkel* set theory with *Choice*. Now this might seem slightly odd, since the axiom we added was called “Well-Ordering”, not “Choice”. But, when we later formulate Choice, it will turn out that Well-Ordering is equivalent (modulo *ZF*) to Choice (see ??). So which to take as our “basic” axiom is a matter of indifference. And the name “*ZFC*” is entirely standard in the literature.

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**Bibliography**