1116-03-467 **Elliot Alexander Kaplan*** (eakapla2@illinois.edu) and **Philip Ehrlich**. *Number systems with simplicity hierarchies: a generalization of Conway's theory of surreal numbers II.*

In 2001, the second author brought to the fore the algebraico-tree-theoretic simplicity hierarchical structure of J. H. Conway's ordered field **No** of surreal numbers and employed it to provide, among other things, necessary and sufficient conditions for an ordered field to be isomorphic to an initial subfield of **No**, i.e. a subfield of **No** that is an initial subtree of **No**. In this presentation, analogous results for ordered groups and ordered domains are established which in turn are employed to characterize the convex subgroups and convex subdomains of initial subfields of **No** that are themselves initial. It is further shown that an initial subdomain of **No** is discrete if and only if it is an initial subdomain of **No**'s canonical integer part **Oz** of omnific integers. (Received September 18, 2015)