Richard J. Trudeau

"The Non-Euclidean Revolution"

(Birkhäuser)

hope is that we can buy enough peace and quiet to be able to prove some of its theorems. Just getting the logical lay of the land will dilute the new geometry's strangeness, and carry us a long way toward eventual reconciliation with our intuitions and imaginations.

A Simple Example of a Formal Axiomatic System

Yes, now I remember, yesterday evening we spent blathering about nothing in particular.

—Samuel Beckett's *Waiting for Godot*, Act II

While you may comprehend intellectually what a Formal Axiomatic System is, you probably don't have much feeling for what it would be like to work with one. And until you do the parts of your mind we want to pacify won't shut up. Thus this example.

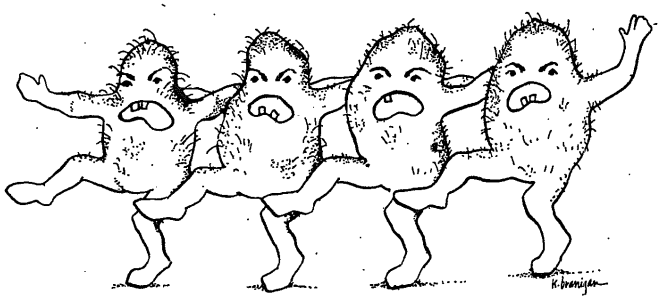

Figure 135

The Scorpling Flugs[11]

primitive terms: *scorple*, *flug*

axioms: SF1. If A and B are distinct flugs, then A scorples B or B scorples A (the possibility of both happening is not excluded).

SF2. No flug scorples itself.

SF3. If A, B, and C are flugs such that A scorples B and B scorples C, then A scorples C.

SF4. There are exactly four flugs.

Referring to Formal Axiomatic Systems, the English philosopher, mathematician, and social reformer Bertrand Russell (1872–1970) once said, "Mathematics is the subject in which we never know what we are talking about, nor whether what we are saying is true." We don't know what we're