The first thing I read from Alfred North Whitehead that made me want to become a mathemariciani was:

Mathematics is the study of patterns.

Patterns are studied in an attempt to achieve understanding of how things got the way they are, of how we could get them to become the way we wish they were.

Formulas are never the goal, although they may end up as devices to help us remember patterns or described them succinctly. But the understanding is the goal, not the formula! My favorite motto has always been from Richard Hamming's

"Numerical Methods for Scientists and Engineers":
The purpose of computing is insight, not numbers.

An equally important slogan should be:

The purpose of mathematics is understanding, not formulas.

Especially there may be a variety of ways to express a pattern, not always in terms of an existing formulas. Especially our purpose may be to devise a way to describe a pattern in formulas, and to develop aa symbolism that actually expreses the pattern. For best illustration go to

`http://introtologic.info/AboutLogicsite/whitehead%20Good%20Notation.html`.

Of course binary patterns, those involving two things, are the most commonly encountered. They may seem to exhaust all possibilities, in that before we can have multiple things we must first be able to distinguish them one from the other, and it may seem that anything beyond can be fully described by binary choices alone. That, however, is a misleading point of view.

1   SPACE

Whenever I go somewhere, I look

1. Left-Right(LR)

2. Up-Down,(UD)

3. and then there is

Near-Far(NF) to see if something is coming toward me or going away from me.

There seem to be 3 of these binary choices in thinking about where we are. We are going to formalize these a little:

1. LDx

2. UDy

3. NFz

where real numbers x,y,and z represent ordinary Cartesian coordinates and and we even draw a box

PERISH

BECOME
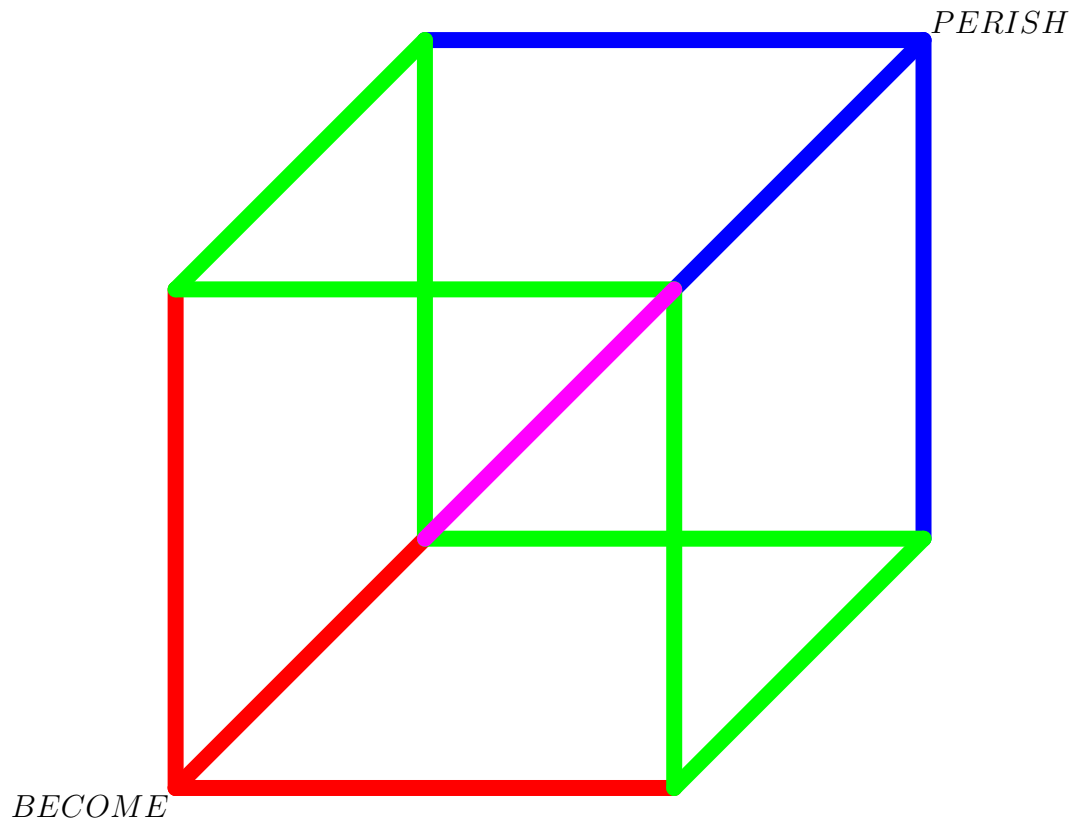
We will soon learn that much more should happen within this box.

Obviously it is going to be hard to distinguish whether things are coming toward us or going away from us, so it may be hard to establish NF ccoordinates.

Since we have not yet learned how to measure or judge direction, the other two coordinate measures will be just as hard, until congruence comes to our rescue.