log tables; to save himself trouble, he memorized the lot. We'll do the opposite and construct an asteroid whose vital statistics will make the figuring easy. Just a baby one. As we build it, we'll take a good look at it, for it won't have long to live. On then, to Vredevoort Mark II.

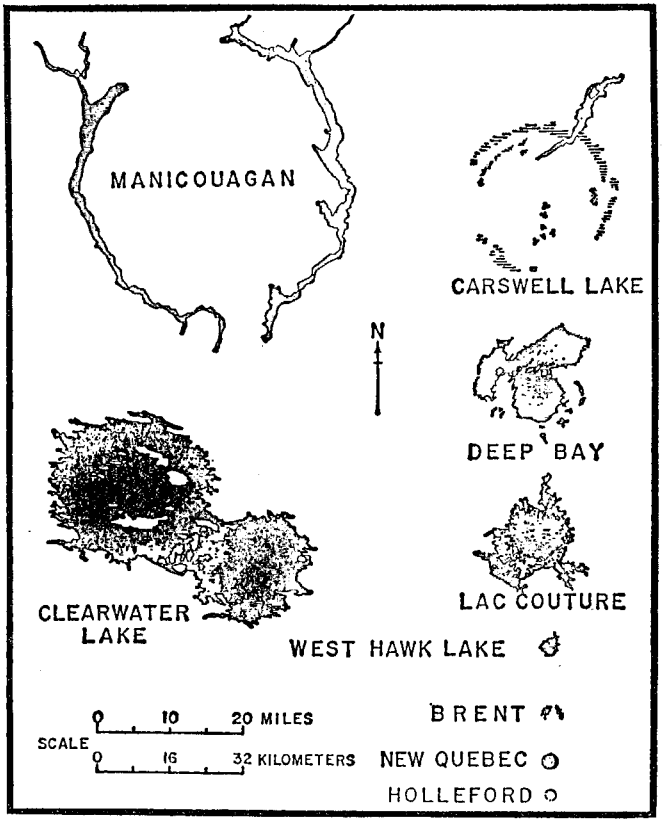
Four cubic kilometers will do for the size. This is just under one cubic mile: about 0.96 cubic miles to be more precise. Weight will be of the essence, so density will count. We will carve our experimental meteorite from a core fragment of planet Number Five. Pure iron, but for a trace of heavier metal which increases the density to the convenient value of eight times water. Every cubic centimeter of asteroid will weigh eight grams. I am encouraged in adopting this composition by Dr. Robert Dietz. He claims that the Sudbury nickel deposits are remnants of a slow nickel iron meteorite, which was also the origin of local deposits of heavy metals.

The shape is immaterial. Asteroids of this size are under no compulsion to be spherical, and the distribution of mass will not alter the impact energy. All the same, we'll take a good look at baby.

As carved out with tractor beams and superlasers the finished artifact is definitely a pill: a drum-shaped disk averaging a kilometer in thickness and three kilometers in diameter. The surface glints blackly evil, faceted and knobbly. Matching velocity to push it on course, we see that is spinning slowly. That notch on the rim will sight on Rigel in a few moments. We'll time the spin. Start the stop-clock now . . . 200 seconds.

Eighteen revs per hour. That's not very fast; the rim is only traveling at 100 m.p.h. But wrap that much rotation round a mass of tens of billions of tons, and you finish with quite a packet of angular momentum. Let's take a momentometer reading . . . the energy of spin comes out at 10^{23} ergs. Why, that equals about 2½ megatons of TNT! If any meteor scavenger thinks of looting this lump, he must first kill that rotation. He could do the job with his surplus Government H1 rocket engine, blasting for a month with about two million tons of propellant. It's hardly an economic proposition.

In fact, any landing whatsoever would be distinctly hazardous. At the rim, centrifugal acceleration is about a tenth Earth "G". At the pole, you might get away with a space-



suit landing; but even there, you must anchor a tether before going down. An electromagnet should hold, but as a confirmed belt-and-gallus man I would reinforce it with a gob of the latest plastic goo. The polar gravitation, little more than a quarter mile away from the center of gravity, is somewhat higher than one might guess. About one twelve-hundredth Earth normal. Fumble a tool as you draw it from your belt and it will only take a quarter minute to fall to the surface. Horrendous crash as spanner hits asteroid at five inches per second.