MOON'S MOONLETS GONE

A satellite going round a planet has a lower and an

upper region of stability. Below a certain altitude

(called the Roche limit) a satellite, due to the strong

tidal forces of the parent body, is torn to bits. Above

a certain distance, the gravitational force of the parent

body is so weak that any perturbation due to another object

can jettison it from its stable orbit.

 --Science Age (Bombay) 1, 79 (1983)

 1

Out there at apogee, it's just a tumbling

to pass time in darkness. The hauling

in is by something too distant to mark

if it is hot or cold, planet or satellite.

It's a weak tie, too; the orbit's eccentric,

visitors, though few, come and go. There

is time to feel their draw, increment

to fade. In the fly-by, an exchange

of angular momentum so the next swing

out is further. A hazardous orbit glance

provides escape velocity, but one

doesn't know what one will be captured by.

 2

Closer in, those body tides, pulls

on the solid...We're not talking of flesh

but what tugs true at earth. Not just moon's

hold on water, the scribbling of runes

in flotsam and seaweed, not the diurnal

loading and unloading, what timed

John Cabot's sail (at Avonmouth the spring

tide is 40 feet). The moon does her own

thing, but what we are after is the strong

craft that put a bulge on Mercury, that makes

a lady of the night keep her face on us

as we roll. A might inverse square slow

haul of the round and massive on what comes

near. Density matters. In the obsessive

limit we elongate the seemingly solid

smaller, and when the coherent forces

are beat, at Roche's limit, a couple radii,

the body — body that was one — gives.

 3

But then what of those cones, stout bullets,

prong-like things sprouting antennas,

solar cell wings, in metal thongs (aesthetics

and aerodynamics don't matter up there),

what of those beeping artifacts we send up

with a flame, a sensor and hope?

Well within the limit, they don't break.

The earth yanks, the same silent pull. Nothing

gives. For a clever brood has welded in

strict joints, struts, tightened bolts. We're

good at holding things together. For

a while — other fiery frictions wait below.

 4

When troubles we get in...and out.

Saturn's rings, a ranging orbit's gambit.

Best to sit still, but momentum

and gravity won't let you — there is push

and pull. Going's on, forever, not pained

by people unable to solve

explicitly, the three-body problem.