THE 1986 NOBEL PRIZE IN PHYSICS

Because it stops
short
of touching, I feel all

the more your tongue
track the small
of my back, the hidden

line crease of leg
and buttock. You have fine
control, a feedback

loop, so that if you
touch a hair, if I rise, wanting that,
you move back, mapping

out (this is not
the first shy scan) the tense local topography.
The scanning tunneling

microscope, invented
by Binnig and Rohrer in 1982 works like this: a fine tip
of tungsten is brought

gently, mechanically
to a teasing five Ångströms of a surface.
Electrons tunnel across

the gap. Much care had
to be taken in the construction;
isolation from perturbing

vibrations being para-
mount. And control:
too close — the tip breaks,

too far — no electrons make
it across.
A sideways sweep easily

maps underlying order, local
defects,
imperfections. Sometimes atoms

jump from surface to tip, the
image shifts. On
microscopic examination the tip

is seen to be very rough. Still
the signal flows; only the asperity
closest to the surface matters.