

GERARD BEIRNE

extract The Nature of Light and the Laws of
Geometric Optics

I The Nature of Light

(i)

Newton opening his eyes to light
floats his theory
of a stream of particles
(long since envisioned
by the ancient Greeks)
stimulating sight
on interaction with the eye
standing by the laws
of reflection and refraction

while Huygens, anything but meek,
sets the waves in motion,
light rippling through space
without the aid of a medium

(a ghost alone walking the earth
unrecognised and unappreciated).

Newton wiping the dust from his eyes
remains unconvinced by unsound reason,
the tedium of seeing straight
when waves can bend around corners,
gauges his reaction, believing
he has seen through Huygen's theory

(the unresolved mystery of diffraction—
for now none of it making sense).

Grimaldi later providing the evidence,
his experiments of light
waves bending around obstacles
in the way the human mind could not
and yet which one of us would believe
what we could not see
with our own eyes
(light's short wavelengths).

Who could be surprised by science
blinding itself to reality
(Colombus persuading sailors
the earth was not flat but curled—
acceptance coming after the fact)
to a hundred years or more of light
snaking around the edges of our world
hiding more than it disclosed?

Which one of us would have been more kindly,
would not have looked down our nose
at a Huygens or a Grimaldi swearing blindly
to have caught sight of the future
to have seen beyond the straight line of time,
the wavelike motion of our perceptual life?

ii

Until a new century of possibility,
the arrival of eventuality
(a space odyssey of light) 1801.
Out with the old and in with Thomas Young
revealing light's interference behaviour
how (under certain conditions)
waves from different sources
cancel each other out

(a point outside the capability of particles)

in the way opposing thoughts
negate each other's existence,
darkness settling on what once was bright,
the gravitational resistance of day to night.

Fresnel, Foucault, Maxwell, Hertz,
all getting in on the act,
setting their sights on disclosing
the true nature of light,
exposing in the process
the foibles of mankind:
the curves, the lines,
the endless points
cluttering up their minds.

Einstein adding fuel to the fire,
an explanation of the *photoelectric effect*,
electrons ejected from a surface exposed to light,
quantized bundles of energy
emitted from his brain,
part particle, part wave,
the undeniable fact
of light's (and man's) duality.

(Man in his laboratory
straight to the point
or at home in his conservatory
wavering and dithering with emotion
reading Browning and sipping a G and T

or on his knees before a god he cannot accept
as readily as he does death
matter passing from one form to another
disintegrating into particles of dust).

Newton in the mean time
measures his expended energy

converts his name into force.

