Abstract for an Invited Paper for the NES11 Meeting of The American Physical Society

A Series of *Fortunate* Events: Serendipitous Encounters with Remarkable Materials MARK SILVERMAN, Trinity College

Chance involvement in bizarrely controversial issues relating to the unexpected behaviour of more or less ordinary materials led to many of the projects I have undertaken as a physicist. Some of these unusual undertakings included (a) organic dyes and the amplification of light that does not pass through them, (b) left-right asymmetric materials and the resolution of conflicting claims over the validity of Maxwell's equations, (c) opaquely turbid media and the surprising capacity to see through them with polarised light, (d) radioactive materials and the radical proposition that nuclear decays are correlated by an unknown universal force, (e) hot metal and the non-Newtonian behaviour of their cooling curves, (f) exploding glass and the thorny question of how solids fragment, and (g) quantum condensates and the unresolved fundamental problem of matter distribution in the universe. To the extent that time permits, I will discuss salient features of these diverse physical systems and the materials that contributed to, or helped resolve, the associated controversies.