On Slow Flow
by Gilly Karjevsky

Listed in the *Guinness Book of World Records*, the so-called “Pitch Drop Experiment” is the longest running scientific experiment in history, winner of an Ig Nobel Prize, and subject of many academic and household imitations. In the most basic of conditions, the experiment sets out to prove a simple fact of nature and physics: things are not what they seem to be.

All matter pulsates with life, and we are part of it. We recognize this element of life through cross-referencing our different senses. Seeing leads to touch; smell becomes taste. Seeing is only a fragment of our sensory system.

Pitch consists of a number of viscoelastic polymers, which can be natural or manufactured. For example, a plant-based pitch is called resin. When manufactured, pitch is normally a black substance (hence the phrase pitch-black) that shatters like glass or rock when hit with force. But at the same time pitch is also a fluid. Its viscosity has been calculated as 230 billion times that of water. As it turns out, pitch has a slow flow.

In 1927 Professor Thomas Parnell of the University of Queensland in Brisbane, Australia, poured a sample of heated pitch into a sealed funnel and left it there for three years to allow it to settle. In 1930 he cut off the tip of the funnel, and the pitch started to flow. In 1938 the first drop separated from the funnel, but, alas, it was unobserved by human eyes. In fact, in the first seventy-three years of the experiment, no one saw, watched, or perceived a drop of pitch actually drop.

From the first to the eighth drop, it seemed to have been humanly impossible to catch the exact moment of the drip—an event that takes a second to occur but happens about once in a decade. An urgent need for a cup of tea caused the experiment custodian to miss the fifth drop in 1970, whereas a camera malfunction caused the eighth drop to escape documentation in 2000. Seeing is rudimentary to an experiment based on the duration of observation.

Luckily, by 2014 three webcams were broadcasting live from the enclosed cupboard in the University of Queensland, and the fall of the ninth drop was watched worldwide by avid followers on a dedicated stream and website. Sigh of relief. The web, an ever-present panopticon, has enabled us to see what we could not see before.

Another manufactured pitch that we are very familiar with is asphalt. Taking into account the viscosity of asphalt, it is possible to envision the streets and pavements of your neighborhood as fluid and in constant flow. And in fact they are. The cement floor on which you stand is a time-based surface. We could also conceive this quality as applying to buildings, clothes, foods, tables, everything we walk on, everything we use, everything we touch.

The distinction between the fluid and solid (as commonly defined) is not fixed. As the Pitch Drop Experiment shows us, in the case of viscoelastic materials, some definitions are not absolute and can only be determined in direct relation to the period of time over which a material is being observed. In other words, time is a component of matter.

In the relationship between materials and the objects they make, humans play an outsider role, yet a crucial one. When observed with the naked eye, the pitch in the funnel—squeezed, squashed, stretched, and on the verge of breaking—seems to be fixed in time, a frozen image of a material in a state of heightened tension. But more then anything, the experiment points to the impossibility of time-based fragmentation when it comes to understanding the true quality of things.

The Pitch Drop Experiment defies the relationship of humans to materials and the time materials take to perform themselves fully. Time and material subvert each other in a complex maneuver, in which one becomes a defining character of the other. In this subverting relationship, time—a human construct and material, both natural and manufactured—still has room for play and occasion to explore.

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