　最新SAT时事类素材——马航事件(创新科技类话题)

　　We can see countless millions of milesinto the blackness of space, but a 3-mile depth in the ocean is testing thevery limits of our technology because most of it just doesn’t work underwater.

　　As the hunt for Malaysia Airlines Flight370 demonstrates, at that depth —minuscule compared with the vastness of space —everything is a virtual unknown. A high-tech unmanned underwater submarine,Bluefin-21, has been dispatched four times to look for wreckage from the jet,but the crushing water pressure and impenetrability of this void mean that onlyits most recent pair of missions were completed. Scrutinizing dust and rockparticles on the Red Planet, tens of millions of miles away, is a breeze.Understanding what’s on the seafloor of our own planetis not.

　　About 95% of deep ocean floor remainsunmapped, but that’s almost certainlywhere the most sought after aircraft in history is going to be found. “Our knowledge of the detailed ocean floor is very, very sparse,” Erik van Sebille, an oceanographer at the University of New SouthWales in Sydney, tells TIME.

　　The reason for our ignorance is simple.Virtually all modern communications technology —be it light, radio, X-rays, wi-fi — is a form ofelectromagnetic radiation, which seawater just loves to suck up. “The only thing that does travel [underwater] is sound,” says van Sebille, “and that’s why we have to use sonar.”

　　Sound is formed by mechanical waves andso can penetrate denser mediums like liquids: but at a 3-mile (5 km) depth, evensonar starts to have problems establishing basic parameters. The waters inwhich the search for MH 370 is happening, for example, were thought to bebetween 13,800 and 14,400 ft. (4,200 and 4,400 m) deep, because that’s what it said on the charts that had been drawn up over time bypassing ships with sonar capabilities. It turns out those seas are at least14,800 ft. (4,500 m) deep. We only know that now because that’s the depth at which Bluefin-21 will automatically resurface — as it did on its maiden foray — whenonboard sensors tell it that it’s way, way out of itsoperating depth. The problems with Bluefin-21, van Sebille says, show us that “even our best maps are really not good here.”

　　The other issue affecting visibility isthe sheer volume of junk in the ocean. About 5.25 trillion particles of plastictrash presently billow around the planet, say experts, weighing half a milliontons. There are five huge garbage patches in the world’s seas, where the swirling of currents makes the mostly plastic debrisaccumulate. The largest of these is the Great Pacific Garbage Patch, a gyremeasuring an estimated 270,000 to 5.8 million sq. mi. (700,000 to 15 million sqkm). This refuse gets ingested by plankton, fish, birds and larger marinemammals, imperiling our entire ecosystem.

　　Flotsam debris has already impeded thehunt for MH 370. Hundreds of suspicious items spotted by satellite have sentaircraft and ships on hugely costly detours to investigate what turned out tobe trash. (On Friday an air-and-surface search continued, with 12 aircraft and11 ships scouring an area of some 20,000 sq. mi. [52,000 sq km] about 1,200miles [2,000 km] northwest of Perth.)Officials are saying that such efforts are becoming futile.

　　For all we know, Bluefin-21 could alsobe confused by the sheer volume of garbage down there. According to a study bythe Monterey Bay Aquarium Research Institute published last June, based on8,000 hours of underwater video, an unbelievable quantity of waste is strewnacross the ocean floor. A third of the debris is thought to be plastic — bags, bottles, pellets, crates — but thereis a vast amount of metal trash as well, including many of the 10,000 shippingcontainers estimated to be lost each year.

　　“I was surprised that we saw so much trashin deeper water,” said Kyra Schlining, lead author onthe study. “We don’t usuallythink of our daily activities as affecting life two miles deep in the ocean.

　　That’sbecause we can’t see it. It’stempting to say that MH 370 might as well have vanished into space — only if it had, we’d have found it by now.