

The way of the sea turtle: Finding your path in life with lessons from nature's long-distance seekers

April 11 2013, by Philip Starks, Tufts Now

Humans seek. It's what we do. We seek enlightenment. We seek self-improvement, physical perfection, a shorter commute. The list is endless—and humans are not alone.

Other [mammals](#) seek, and so do birds, fish, insects and even [microbes](#). The humble pill bug is a seeker par excellence. This tiny [arthropod](#) seeks moisture, without which it will die. When its surroundings are too dry, the pill bug moves rapidly. When its surroundings become less dry, it moves slower. As a result, the pill bug spends more time in favorable environments than in unfavorable ones. This type of seeking, through rate of movement, is called kinesis. The animal doesn't know which way to head, it just keeps moving until it finds what it seeks.

But don't laugh at the pill bug. Some humans almost certainly mimic the little beast. People can take a kinetic approach to almost anything: dating, schooling, religion, therapy, their purpose in life—randomly bouncing between options, and staying longer when the staying is good. This approach has its place, but it takes time and does not guarantee that you'll ever find the right someone or something.

Another form of seeking is more directed—oriented toward or away from something specific, such as light. This is called taxis. The [moths](#) swarming around a porch light in the summer are termed positively phototaxic. Maggots, shunning light, are negatively phototaxic. Different

creatures show different preferences—for sights, for sounds, for [scents](#).

People exhibit taxis too. We may be drawn to sex or alcohol or excitement, or repelled by things that require effort or sacrifice. This might explain how some attention seekers end up on stage and how some thrill seekers find employment as their stunt doubles. But as with kinesis, there are drawbacks. Just because we are attracted to something doesn't mean it will help us achieve our long-range hopes and goals.

Kinesis and taxis are useful when what you are seeking is close. And maybe this is enough for pill bugs and [maggots](#). It might even be good enough for people, if all they are doing is following the scent of pizza to their next meal. But what if you seek something that isn't close, like a satisfying career? Neither kinesis nor taxis is likely to get you there.

If what you seek is complicated or distant, look to sea turtles. Loggerheads travel at least 9,000 miles in the Atlantic and return to the beach where they were born. How? They use magnetic fields to help orient them toward a goal, and then ensure that they are on the right path by identifying landmarks. This type of seeking is called true navigation.

The turtles behave in a way that I deeply respect. True navigation—at least the human version—requires thinking about the future, setting goals, paying attention and measuring progress. Attaining a tenured faculty position in the natural sciences (to pick a worthy goal at random) requires just such a strategy. One must earn a Ph.D., secure a postdoctoral position and win a tenure-track post. Throughout the process, one must perform work of sufficient quality to merit promotion. The process just might lead to a world-changing discovery.

Conversely, a discovery could set one on the path to gaining scientific credentials, as happened with Charles Darwin. The biologist formulated his theory of natural selection in the late 1830s but didn't publish it for

more than 20 years. There are multiple reasons for the delay—social norms, his wife's religiosity—and even a reason the release was rushed: Alfred Russel Wallace had hit upon the same theory. But there is another, equally valid explanation. Before Darwin could turn the world upside down, he needed to be taken seriously as a biologist. He earned his street cred first as a naturalist, and then as a traditional scientist with his eight-year exploration of barnacles. Once he had reached these professional milestones, he could release his theory—essentially, the realization of his ultimate goal.

I myself have career goals (albeit less grand than Darwin's), as well as many short-term goals to mark progress. Whether I achieve my ultimate aim or not, I can predict with certainty that my path will be more orderly than the pill bug's but immeasurably less sure than the loggerhead turtle's.

More information: *This article first appeared in the Winter 2013 issue of Tufts Magazine. Republished with permission, Tufts Now, Tufts University.*

Provided by Tufts University

Citation: The way of the sea turtle: Finding your path in life with lessons from nature's long-distance seekers (2013, April 11) retrieved 19 September 2024 from <https://phys.org/news/2013-04-sea-turtle-path-life-lessons.html>

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