

UNITED STATES
DEPARTMENT OF THE INTERIOR
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HORACE M. ALBRIGHT TRAINING CENTER
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NEW FINDINGS IN A 'LOST' ART

As the newspaper accounts of fatal and near tragic incidents testify, there is a continuing need for a simple, field expedient for determining direction in emergency situations.

This is of special importance to the National Park Service, which has the responsibility for finding lost persons who have gone astray in the National Parks.

The heretofore most widely adopted system for finding direction under survival conditions is the WATCH METHOD (see Fig. 1). It is advocated by practically every one of the 100 or so outdoorsmen's guidebooks, such as MacMillan Company's Camping and Woodcraft, by Horace Kephart.

The U.S. Army recommends the WATCH METHOD in several field manuals (e.g., FM 21-76, Survival), as does U.S. Navy manual How to Survive on Land and Sea.

Even the Boy Scout Handbook, which might well be termed the gospel for basic outdoor skills, since it is outsold only by the Bible itself, unequivocally states that one can obtain TRUE SOUTH by using this method.

To briefly examine the implications of the Boy Scout claim . . .

Let's make sure we understand the meaning of "true direction." True North, for example, means the exact direction of the geographical North Pole. All lines of longitude are true North lines; surveyors, therefore, call a true North-South line (the longitude line) at a given place, the local meridian. Others call it the observer's meridian, and some merely refer to it as the meridian. The terms "true North," "true South," "true East," etc., must be used cautiously, because they mean just that.

Used by themselves, such terms as "North," "East," and "West," merely mean "in the general direction of," unless the context of the discussion clearly indicates otherwise. Although there is no formal definition of GENERAL DIRECTION,

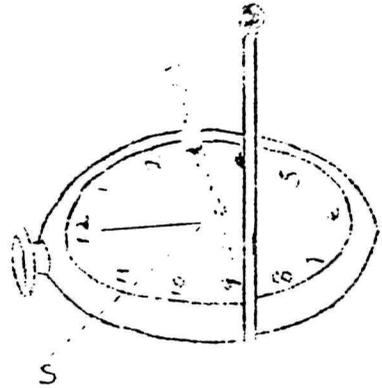
it appears to be agreed among survival experts that this term is applicable if the error from true direction is not more than 25 degrees.

Unfortunately, the Watch Method can be greatly in error, especially in the lower latitudes. Even in the continental United States (48 States) it can be off about 70 degrees from true direction in such places as Big Bend National Park, Texas. For each mile the user thinks he is traveling TOWARD his goal he actually travels more than TWO miles off course.

Fig. 1

"Eskimo"
Watch Method

With watch running on Standard Time, lay it flat on the ground. Place a match or twig upright against the rim. Turn watch until the hour hand points along the shadow toward the sun.



South will lie halfway between the hour hand and 12 o'clock.

As one approaches the North and South Poles, the Watch Method gets better, especially in the wintertime. We all know that winters get more severe as latitude increases, so a good rule for the Method is that its usefulness increases as the weather turns colder. It is aptly termed the "Eskimo Watch Method" for this reason.

During the warmer months, the errors in direction can be so great that the Eskimo Watch Method may be useless and even dangerous. It should never be used in the Tropics, because errors can be as much as 175 degrees, or almost exactly opposite from the desired course of travel.

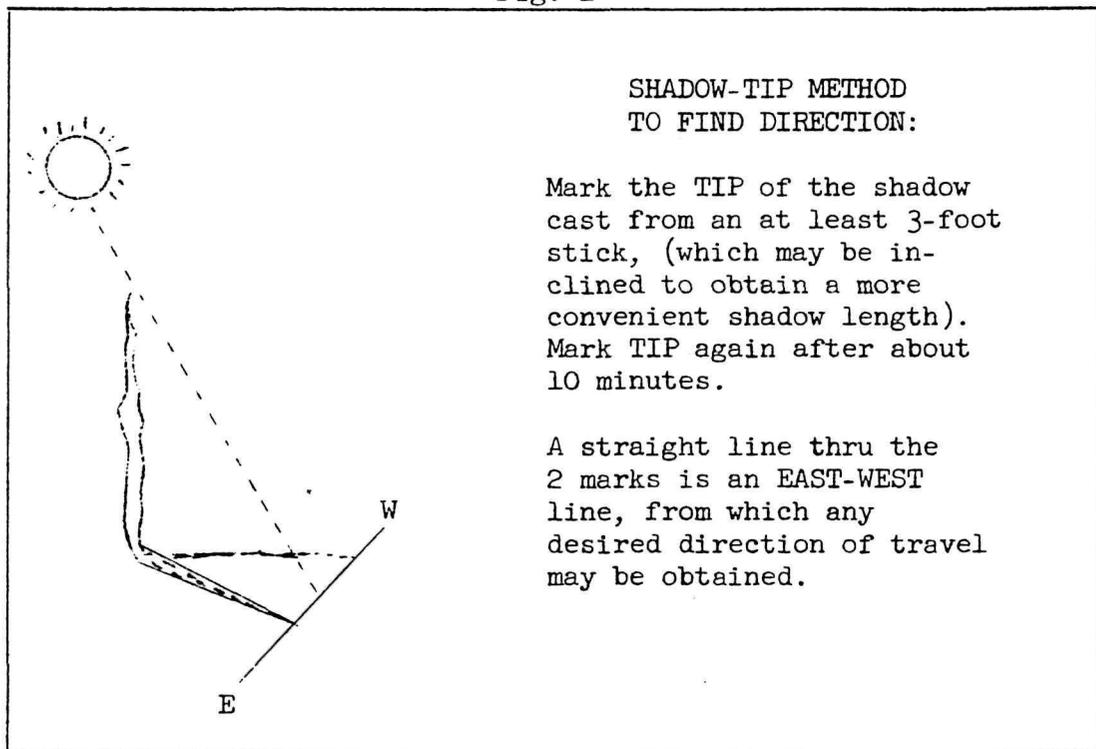
To remedy this situation, young Robert S. Owendoff devised his copyrighted SHADOW-TIP METHOD in 1960, while a high school sophomore. This method (see Fig. 2) is quite reliable, as compared to the ESKIMO WATCH METHOD. Bob's system has practically no error on dates

close to the Equinoxes (March 21 and September 23).

For any location in the Tropical and Temperate Zones, the error is usually within 15 degrees, and only on rare occasions (near the Solstices) does the user fail to obtain GENERAL DIRECTION.

If shadow-tip readings are taken throughout the day to avoid "circling," the errors in direction cancel out. In contrast, the ESKIMO WATCH METHOD user who takes frequent readings will often travel in a weird-shaped curve, closely akin to aimless wandering.

Fig. 2

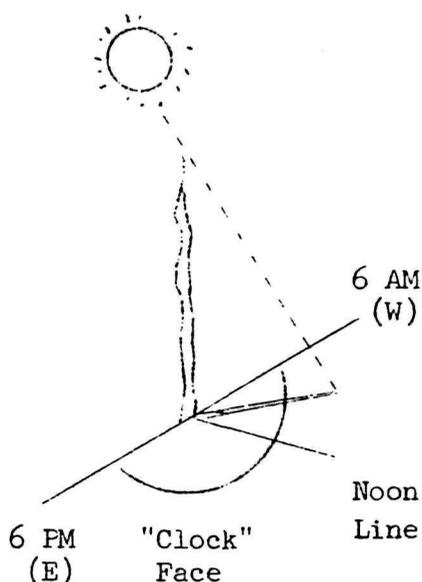


If you are uncertain of which is East and which is West, remember this simple rule: The sun rises approximately in the East and sets in the West (but rarely DUE East and DUE West). The Shadow-Tip moves just the opposite. Therefore, the first shadow-tip mark is always in the West direction and second mark is always in the East direction, EVERYWHERE on earth.

One advantage of the WATCH METHOD is that readings can be taken very quickly, compared to the 10 minutes required for the SHADOW-TIP METHOD. However, Bob has also devised a way to "store up" the accuracy of his shadow-tip technique, by using a modification of the watch system. He calls it his new technique, the OWENDOFF WATCH METHOD for want of a better name.

Fig. 3

To use the Owendoff Watch Method, merely follow the instructions given in the Shadow-Tip Method diagram, to find shadow-clock time. Set your watch to this time, and find direction by following the usual procedure. After you have traveled for an hour or so, take a "check" shadow-clock reading, and reset your watch if necessary. In between, you can take as many instantaneous readings with the watch as you need to avoid "circling," which is very important to the traveler in unfamiliar surroundings.



SHADOW-TIP METHOD
TO FIND TIME OF DAY:

Proceed as for Direction, then draw a NOON line at right angles to EAST-WEST line at any point. Move stick to where these lines intersect, and set it vertical. The shadow is now an hour hand on your 24-hour "shadow clock." 6 a.m. is West and 6 p.m. is East.

In example shown, time is about 9:30 a.m.

Direction by using the OWENDOFF WATCH METHOD coincides with that obtained by the basic SHADOW-TIP METHOD (Fig. 2); that is, the accuracy of both systems is identical.

Bob would like to hear from persons interested in this subject, whether they agree with him or not.

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Because this new direction-finding system is a major improvement over established methods, the U.S. Army formally adopted Robert's method on January 26, 1962, and in May of that year awarded him \$500 for his suggestion. The U.S. Air Force adopted his technique on November 1, 1962. The American Red Cross, U.S. Forest Service, Canadian Boy Scouts, Dutch Boy Scouts, and many other agencies also use it.