

C. L. Caldwell
Troop 67

Pathfinding



MERIT BADGE SERIES
BOY SCOUTS of AMERICA
200 FIFTH AVE.
NEW YORK CITY

REQUIREMENTS

To obtain a merit badge for Pathfinding, a Scout must:

1. In the country, know every lane, bypath, and short cut for a distance of at least two miles in every direction around the local scout headquarters; or in a city, have a general knowledge of the district within a three-mile radius of the local scout headquarters, so as to be able to guide people at any time, by day or by night.
2. Know the population of the five principal neighboring towns, their general direction from his scout headquarters, and be able to give strangers correct directions how to reach them.
3. If in the country, know in a two-mile radius, the approximate number of horses, cattle, sheep, and pigs owned on the five neighboring farms; or, if in a town, know, in a half-mile radius, the location of livery stables, garages, and blacksmith shops.
4. Know the location of the nearest meat markets, bakeries, groceries, and drug stores.
5. Know the location of the nearest police station, hospital, doctor, fire alarm, fire hydrant, telegraph and telephone offices, and railroad stations.
6. Know something of the history of his place; and know the location of its principal public buildings, such as the town or city hall, post-office, schools and churches.
7. Submit a map not necessarily drawn by himself upon which he personally has indicated as much as possible of the above information.

Cap, Chuck, Strom, George, Bud, M.S.D., Reg. 1

INTRODUCTION

THIS is one of a series of pamphlets published by the Boy Scouts of America in connection with its Merit Badge scheme. This library on Scout activities and vocational guidance has been prepared by experts and is frequently revised and brought up to date.

We feel that the Merit Badge Series offers to boys a library that is unsurpassed in helpfulness, technical excellence, and wide range of interest. Much of the material that is here made available at a very moderate cost, it would be impossible to procure at any price elsewhere. Leading authorities have placed their time and knowledge at the disposal of the Boy Scouts as a contribution to the boyhood of America.

It would defeat the purpose of the Merit Badge plan if an attempt were made in the pamphlets to cover the requirements so completely as to make unnecessary the boy's using his own initiative and resourcefulness in seeking further information to enable him to meet the requirements successfully. The material in this pamphlet, however, provides a more comprehensive outline of the subject than would be practical in the Handbook for Boys. The pamphlets suggest the scope of the subject, and serve as a guide. In each case the Scout should secure further book knowledge for himself and avail himself, upon his own initiative, of such opportunities for further study as he can develop in his neighborhood or community, from men who are authorities on the subject. Experience shows that men of this type are usually very glad to cooperate with boys who show an earnest interest in the subject.

Only the duly registered Scout may qualify for Merit Badges. Second Class Scouts are eligible to take five of a selected list of thirty subjects. First Class Scouts may qualify for the entire series.

Examination for Merit Badges should be given by the Court of Honor of the Local Council and in larger communities by the district Court of Honor, organized so as to reduce to a minimum the necessity of the boy traveling long distances. In no case shall a Merit Badge be awarded unless the Scout has personally appeared before at least three members of the Court of Honor, and either by examination, conducted personally by the Court of Honor, or upon evidence furnished by a duly appointed expert counsellor, demonstrated to the satisfaction of the Court of Honor that the Handbook requirements have been complied with in a satisfactory manner. In communities where there is no Court of Honor an Examining Committee of at least three members supervises the Merit Badge Tests.

In all examinations, it should be borne in mind that the purpose of the tests and examinations is not to secure a mere technical compliance with requirements, but rather to ascertain the Scout's general knowledge of subjects studied, and practical rather than book knowledge is desired. A Scout should be prepared at any examination for a review covering previous tests given him as well as to demonstrate that he is putting the Scout Oath and Law into daily practice.

With a view of increasing the value of these pamphlets to all boys, and particularly to Boy Scouts interested in securing Merit Badges, an attempt has been made in connection with each subject, to make available facts and information bearing on the vocational value of the subject. It is believed that this practical application in each case makes available a unique contribution to the literature for boys, and will be of great value to parents and teachers as well as boys throughout the whole country.

To further this object, those interested, and having suggestions to offer as to the vocational guidance treatment of any of the eighty-eight subjects for which Merit Badge awards are provided are invited to correspond with E. S. Martin, Secretary Editorial Board, The Boy Scouts of America, Park Avenue Building, 2 Park Avenue, 32nd and 33rd Streets, New York City.

PATHFINDING

By BELMORE BROWNE

Counsellor, National Court of Honor, B. S. A.

To my mind there is no more important merit badge among all of those granted by the Boy Scouts of America than the one given for pathfinding; and if the scout is not interested in pathfinding, he will know nothing of the locality in which he lives, and he will not have the opportunities for learning and putting into practice those requirements that are necessarily a part in the education of every normal man.

The winning of this merit badge, whether the scout realizes it or not, will have an important bearing on his future life; for he cannot perfect himself in the knowledge necessary in passing the pathfinding test without acquiring a good memory and the habit of intelligent perception, and it is on these two important factors, coupled with energy, that success in every walk of life depends.

Great Americans Were Pathfinders

No names are better known among Americans than those of the men who blazed our national trails into the western wilderness and staked out the limits of our great country. George Washington, Daniel Boone, David Crockett, John C. Frémont and Lewis and Clark were all pathfinders in the truest sense of the word, and even the most superficial study of their lives shows us that their ability in pathfinding was due to their natural courage, energy, high principle and patriotism.

1. *In the country know every lane, bypath, and short-cut for a distance of at least two miles in every direction around the local scout headquarters; or in the city, have a general knowledge of the district within a three-mile radius of the local scout headquarters, so as to be able to guide people at any time, by night or by day.*

In reading this test we are struck by the similarity between the scout's difficulty and that of any man who makes

a home or camp in the wilderness. Many miles of exploration must be accomplished before the small circle with its four mile diameter is thoroughly known.

Camp Landmarks

If the pathfinder is among mountains, he selects a peak that rises above his camp for a sign post to mark its location, and the stream that flows by his camp serves as a roadway to lead him home when his camp is located. Thereafter every move the pathfinder makes, however intricate, is based on these two natural features, the mountain and the stream; for as he learns more and more about the surrounding country, he weaves every little detail into its correct place in relation to the mountain and the stream.

On his first day in camp, among those things he notices that the timber has been burned away on the western shoulder of the mountain, that below the "burn" a long slope of sun-hardened snow sweeps around the mountain side below some rugged cliffs, and that the sound of rushing water about two miles away indicates that there is a canyon on the headwaters of the stream which runs by his camp. He may not pay any special attention to these details, but he remembers them subconsciously—for the difference between a good pathfinder and a poor one is, that a good pathfinder remembers everything he sees. Several days later he finds himself in a mountain fog and as he journeys along he begins to feel uncertain as to the direction of camp. Suddenly he finds himself among burned tree trunks, and as he ascends a bare knoll the sound of distant water comes up through the storm clouds at his feet. On the instant he knows where camp lies, for he remembers that the burned timber is on the western side of the peak above the camp, and the sound of water, therefore, must be the same rapid that he heard several days previously.

Tramping through burned timber, however, is slow and tedious work, and below him lie the rugged cliffs that may cause him trouble. Without an instant's hesitation he turns downward, descends the cliffs by way of a narrow gully and gains the snow. Now everything is clear sailing, for the hard snow sweeps like a great roadway around the mountains, and by following it to its end he is able to descend diagonally through the timber until he comes out on the bank of the stream fifty yards below his camp.

Now, our woodman has overcome the fog by the simplest kind of pathfinding and yet, simple as it sounds, there are plenty of men who become hopelessly lost under similar conditions. For although they might see the burned timber, they would forget to note its compass bearings in relation to the mountain and the stream, and by failing to note the sound of rushing water they would be unable to identify the burned timber when they encountered it in the fog. In this instance we find that hearing has played an important part, which goes to show that pathfinding requires all our faculties.

As our pathfinder learns more and more about the surrounding wilderness he continues to fit every new bit of knowledge into its proper place in relation to the mountain and the stream, until his mind is a map whereon every mountain stream and valley is shown in its correct relation to the whole.

At first the scout must do this consciously, as a map maker would, but eventually his mind will receive and record each impression automatically. The skilful pathfinder may be trailing a deer and during the long day he may not be conscious of anything save the excitement of the hunt, and yet when it is time for him to start homeward, every necessary detail of the country he has traversed is clear in his mind and he takes the shortest and best route to camp without a moment's hesitation.

How to Prepare for the First Test

In perfecting himself in the first test, therefore, the scout should approach the subject in the same manner in which a pathfinder in the wilderness would. First, get the "lay of the land" firmly settled in your mind. With the scout headquarters as a center, you must have something to mark it. A church steeple, a wind-mill or any tall structure will serve if you are close to civilization, but if your headquarters are in the country, a hill or a grove of trees will answer.

The second important step is the gaining of a thorough knowledge of the principal roads, which we can compare to rivers in the wilderness. Following in natural order come the lanes and byways, and last of all, the short cuts. This is common sense, because you cannot expect to make a short cut in either the wilderness or civilization until you have familiarized yourself with the larger topographic features.

The minute you leave a road or trail and begin to make a short cut, you are confronted with the most difficult feat in pathfinding, for you are depending entirely on your own knowledge of the surrounding country, and you are putting to their hardest test your faculties of memory and perception.

Certain individuals are particularly gifted in the ability to travel "cross country," while others are equally lacking in what they term "a sense of direction." Now the "sense of direction" idea is in a way misleading. It suggests that old myth, handed down to us by untrained travelers, to the effect that savages possess a "sixth sense," or instinct that enables them to travel through trackless wilds without becoming lost, or — using their brains.

As to the "Sixth Sense"

Needless to say, these stories would never have been told had not the travelers who circulated the report been "tenderfeet," for in every land there are local signs that are known to the natives and used by them in finding their way. The growth of trees and vegetation, the course and character of streams, the direction of the wind, as indicated by the deposit of old drift in lakes or swamps; climatic conditions, topographic features, the actions of certain animals and birds and even subtler signs may be of value in helping a pathfinder to choose his course. Most of these signs are either unknown or utterly undecipherable to the tenderfoot, and in consequence he is filled with awe and admiration for the wild men who guide him, whereas, if his guides could or would enlighten him, he would be surprised at the simplicity of their deductions, and, incidentally, disabused of the theory as to their seeming wonderful "instinct."

In a limited sense the same explanation can be applied to "tracking," for we know that certain uncivilized people have developed a degree of skill in following trails that is little short of miraculous. And yet we know that when the Apache scout is following a trail that we do not see, he is none the less basing his deductions on signs that we could see and follow were we educated to the art.

At first reading the signs may appear as difficult as the solution of a Sherlock Holmes mystery, but when the signs are explained to us we find that they were perfectly simple. By perfectly simple, I mean perfectly understandable, for

the skill of the Apache scout or the African tracker is the result of years of the closest application, and without a strong incentive they would never have developed the skill that draws our admiration.

Now, the merit badge for pathfinding has been offered to the boy scout with the purpose of supplying this incentive and encouraging him to develop, by practice, those of his faculties that might otherwise lie dormant.

Train Your Memory

You have all read, no doubt, how "Kim," in Rudyard Kipling's great book, was taught by the native secret service men to remember, after a single glance, how many buttons, bits of glass, and other baubles were spread on the cloth. He was made to practice this seemingly senseless and uninteresting game so that in the days to come, when he had become a government detective, his power of perception and of memory would be so keen that after a single glance at a man's face, a pamphlet or the inside of a tent, he would note every important detail, and remember it. By improving your memory as Kim did, you will unconsciously improve your powers of perception. As an illustration let us take the street with which you are most familiar, we will say the road between your home and your school.

From the number of times that you have followed this road you will be convinced that you know a great deal about it, but if you attempt to write down a really accurate account of its important details, you will be surprised to find how little real knowledge you possess. The result will be that the next time you travel the road you will see a hundred interesting details that have heretofore escaped your notice, and without realizing it you will have taken your first step forward in pathfinding.

In preparing yourself for the first test I would suggest that you make a particular point of remembering every detail — no matter how unimportant — of the main roads within a two-mile radius of the scout headquarters. If you do this conscientiously you will, at the same time, fit yourself for the first part of test No. 2.

Now in order that my reader may not think that I am laying too much stress on the importance of memory in relation to pathfinding, I will recount one incident from a hundred of the kind that have come under my personal notice.

An Indian's Memory

An Indian and I were once overtaken by a storm in the wilderness that lies on the headwaters of the Yukon. We were returning to camp through a broad valley which was heavily timbered and cut up by game trails that offered a possible but erratic route through the dense underbrush that divided the numerous swamps.

For the time being we were completely and thoroughly lost. As we had been traveling for twelve hours without food, and were wet to the skin by the cold rain, we did not relish the thought of a night in the open, as night was coming on. In clear weather we would have caught occasional glimpses across the swamps of the mountains that encircled the valley, and in this way we should have kept a correct line to our camp; but as it was we could not see more than fifty yards through the driving mist and rain.

For a long time we struggled aimlessly on until the dim light began to deepen into dusk. At last I began to give up hope and was looking for a partly fallen tree that might serve as a rude shelter and wind break, when the Indian turned with a beaming face and said:

"I ketchum camp!"

I was content to keep silent while we journeyed to camp, and twice thereafter I was able to aid by recognizing a swamp, and a cast moose antler that I had noticed early the preceding morning. The next day when I asked the Indian what he had seen to give him the correct direction of our camp, he offered all sorts of ridiculous answers. He had "scented" camp, he had heard a pack horse bell, a "moose bird" had led him. These were some of his explanations.

When I persisted, however, he told me the simple truth. Early in the morning of the same day he had noticed a dead spruce that had a queer "burl" or growth in its upper branches. When we were lost we had accidentally crossed our morning trail close to this tree, and having a trained memory he had recognized it. Knowing that he was at last on the right trail, he had been able to proceed easily by following the other natural features along the way. The explanation of his successful pathfinding was simple in the extreme, and yet every similar explanation in relation to finding the way after being lost must be equally simple, for success always hinges on merely remembering some sight or

sound. For the reason that our success necessarily depends on such simple sign posts, it is imperative that we must notice and remember every little detail along our trail.

The wilderness pathfinder develops his powers of observation by constant practice. As the average scout has not these advantages, I would suggest that the following modification of the training that Kim went through should be followed. After two or more scouts have passed over a certain trail or road, let each write down in order a list of the important or distinctive features along the route. The scout who remembers the largest number of important features leads the party until another scout beats him at the same game. By playing this game orally, it will have an added value through its bearing on test No. 2, which lays special stress on the scout's ability to give information.

2. Know the population of the five principal neighboring towns, their general direction from his scout headquarters, and be able to give strangers correct directions how to reach them.

Ability to direct strangers to distant points is one of the most difficult and important branches of pathfinding. Nothing is more exasperating than to ask a countryman a question, and receive an answer that begins in this way: "Wall — yer go down this rud a piece 'n then yer come t'r rud on yer left 'n then yer go quite a bit further'n yer come t'r rud on yer right, 'n then hymbye yer can see a house off ter the right — leastwise yer kin ef yer look right smart, 'n then yer go a piece further'n —!" This type of answer is only too common, and by asking and answering questions with your fellow scouts you will soon learn the correct method of giving information.

The most important things to remember in giving information are, to leave out the unessential things, and to state the necessary details, clearly and in their correct order. You cannot lay too much stress on this part of the test, because nothing is of more importance in pathfinding, or war, or business than the ability to answer questions and give information quickly and correctly, and by learning this lesson when you are a scout you will acquire the habit by the time you become a man.

The "necessary details" consist of an accurate approximation of distance, and a clear statement of the features

along the way that can be easily recognized. In "civilization" the standard of distance should be given in "blocks" or "squares." In the country the standard is given in miles and yards. You must remember, however, that your information must always be suited to the intelligence or experience of your questioner. In judging distance you must depend on experience alone. If you have competed on the track in either the sprints or long distance runs, you will be already able to approximate closely the distances you are familiar with. In the wilderness, however, you will find that a trail always seems longer the first time you travel it, and you must make allowances for this fact when giving information. The best method of approximating long distances is by familiarizing yourself thoroughly with your own speed under all sorts of conditions. This knowledge will be of inestimable value to you in pathfinding.

3. *If in the country, know in a two-mile radius, the approximate number of horses, cattle, sheep and pigs owned on the five neighboring farms; or, if in a town know in a half-mile radius, the location of livery stables, garages, and blacksmith shops.*

4. *Know the location of the nearest meat market, bakeries, groceries, and drug stores.*

These two tests bear especially on your possession of practical knowledge and the development of your power of observation. A wilderness pathfinder remembers the places where wild berries grow abundantly, the streams where fish can be caught, the mountains where big game congregates, and the location of different kinds of trees that may be useful in the construction of canoes, axe handles, rafts, cabins and snowshoes. In the same way the practical man in "civilization" should notice and remember the places where the necessities of life can be found. Even if this knowledge is seldom of use to the individual, it will always be of benefit to strangers, and its possession will prove to be one of the many ways of helping others.

5. *Know the location of the nearest police station, hospital, doctor, fire alarm, fire hydrant, telegraph and telephone offices and railroad stations.*

This is particularly important, for with this knowledge and the ability to impart it quickly and accurately, you may

be able to perform the great service of saving life and property.

6. *Know something of the history of his place; and know the location of its principal public buildings, such as the town or city hall, post-office, schools and churches.*

The value of this test is readily understood. It requires knowledge that every public-spirited, patriotic, and intelligent man must possess.

7. *Present a large scale map showing as much as possible of the above required information.*

In the last test which tells you to enter as much of your information as possible on a large scale map, you will put to its final proof the knowledge you have acquired, for, unless you are able to fit the details of the locality you have studied into their proper place in relation with the surrounding country you will never become a pathfinder. If you have enthusiasm, "stick-to-it-iveness" and a love for the great outdoor world, you will have no great difficulty in learning, but the more you know the more you will want to know, and it is when you have reached this point, that you have begun to be a real pathfinder. This map should be made by the scout.

ON BEING LOST

By GEORGE GLADDEN,

*Deputy Commissioner, Manhattan Council; New York City.
Chief Guide, Natural History Troop.*

Soon or later everybody who travels much in the woods — *real* woods — is likely to get lost. The tenderfoot (scout or otherwise) does; the experienced woodsman does — even the Indian sometimes does. Mr. Browne's Indian — in the foregoing excellent discussion of pathfinding — is a case in point. But the Indian often won't admit it, at least to a white man; from which trait probably originated the classic story about the red-skin, who, when he was accused of being lost, replied, indignantly,

"Injun no lost; wigwam lost; Injun *here!*"

Astray or Lost

There is a difference between being *lost* and being *astray*. For example, you may suddenly realize that you are traveling northwest instead of north, which you had supposed and desired to be your course; and that discovery may cause not a little confusion in your mind. As long as that confusion lasts, you are *astray*; actually you are no longer really astray as soon as you realize your error, and begin to travel north.

Again, if you confidently expect to see a certain landmark — say, a big ledge on a mountain-side — from a trail or road from which you believe it to be visible, and it isn't there, you are certainly astray, and perhaps *lost*, as far as that ledge is concerned. Wherefore it behooves you to find out promptly just *why* you have missed seeing the ledge. Otherwise you are likely to get still further off your course. For, depend upon it, *the ledge hasn't moved* — that is, the wigwam isn't lost. The mistake that many an inexperienced person makes lies in blundering along, and trusting to luck, with the result that presently he is lost, "for fair."

How It Feels

With this realization is likely to come a sense of bewilderment which becomes more and more acute. The sun is setting in the *east*; the compass points due *south*. As Horace Kephart correctly and vividly described the predicament: "A man is really lost when suddenly (it is always suddenly) there comes to him the thudding consciousness that he cannot tell, to save his life, whether he should go north, east, south or west. This is an unpleasant plight to be in, at any time; the first time that it is experienced the outlook will seem actually desperate.

"Instantly the unfortunate man is overwhelmed by a sense of utter isolation, as though leagues and leagues of savage forest surrounded him on all sides, through which he must wander aimlessly, hopelessly, until he drops from exhaustion and starvation. Nervously he consults his compass, only to realize that it is of no more service to him now than a brass button. He starts to retrace his steps, but no sign of footprints can he detect. He is seized with a panic of fear, as irrational but quite as urgent as that which swoops upon a belated urchin when he is passing a country graveyard at night. It will take a mighty effort of will to rein himself in and check a headlong stampede.

"In such a predicament a man is really in serious peril. The danger is not from the wilderness, which, pitiless nig-gard though it be to the weak-minded or disabled, can yet be forced to yield shelter and food to him who is able-bodied and who keeps his wits about him. No; the man is in danger from himself."¹

What to Do About It

It has been said that it is useless to give a tenderfoot advice about what to do when he is lost, because immediately he realizes that fact, he becomes panic-stricken, and temporarily a lunatic who will not recall any advice, however sound and obviously sensible, he may have received and accepted as such when he was responsible. But that is begging the question. Besides, as a matter of fact, the utter mental irresponsibility produced by the consciousness that one is lost, probably never develops instantly. Rather it is

¹ Horace Kephart, *Camping and Woodcraft* (1917), Vol. II, Chapter 2.

in most cases a growth, often rapid, it is true, but rarely if ever one which may not be checked at the outset. Therefore, practically all experienced woodsmen, and other sensible persons who have considered the subject carefully, will agree on something like this as the first thing to do when you discover that you are lost:

DO NOTHING. *Sit down on the nearest log. Make yourself sit there for at least half an hour, and make yourself THINK* — about what you have been doing for the past hour. How long ago was it when you were *sure* of where you were, and in what direction were you traveling then? Where is that point now? Is it up hill or down hill, or both? What kind of country in a *general* way have you come through meanwhile? Don't try to remember fine details — only *general* features. By the time you have forced yourself to answer intelligently these questions, perhaps something like a sense of humor will come to your rescue, and you will begin to ask yourself questions like these:

"If I don't know which way I am going, or where I shall come out, why should I hurry?" Or:

"If I am in for a long, hard hike, why should I go at it as if I were tackling a 220-yard hurdle race?"

Comparatively little of this deliberate and connected thinking is likely to bring a person to his senses: to transform him from an incipient mad-man into a rational being. "Certainly," as Mr. Kephart says, "it is true that if a man in such straits permits panic to conquer him, he is likely to perish or come out of the woods a gibbering lunatic. There have been many such cases. But it is not true that they are the rule. Thousands of wayfarers have been lost for a day, two days, or longer, without losing their self-command. And there is really no valid excuse for an able-bodied person going out of his head from being bewildered in the big woods so long as he has a gun and ammunition, or even a few dry matches and a jack knife," which, at the least, are likely to be in the possession of every scout who has had sensible training even in elementary woodcraft.

As to ways of getting lost, they are, of course, very numerous; also most of them are easily avoided if one keeps his wits about him. "There is no man, white or red, who is not liable to lose his bearings in strange woods if he is careless," says Mr. Kephart, in his book just quoted. And he continues: "If an Indian is seldom at fault as to his course it

is because he pays close attention to business; he does not lose himself in reverie, nor is his mind ever so concentrated on an object that he fails to notice irregular or uncommon things along the way. And yet, even Indians and white frontiersmen sometimes get lost."

A Near-Lost Experience

The present writer may be pardoned for relating a near-lost experience he had in the New Brunswick forest a few years ago, because it illustrates a mistake which is often made, and sometimes with serious consequences. With an expert moose-hunter and woodsman who was familiar with the region, he was enjoying that fine sport from a base camp established in the cook-shack of an abandoned lumber camp. Through the camp passed a small brook, on its tortuous way, mostly through thick undergrowth (chiefly of laurel) to the Dungarvon River, about half a mile to the north-east. There were plenty of trout in this stream, and some of them were needed — or at least would be appreciated — for supper.

So the writer set off from camp alone, along a trail which he knew crossed the stream about 500 yards (in a straight line) below camp. At this crossing stood a big spruce whose trunk was plainly blazed at about shoulder height. It was practically impossible to get at the stream through the laurel tangle, and the fisherman didn't try. He contented himself by fishing in the few comparatively open places, which could be reached by making détours around the laurel. In this manner he made his way (mainly along the west bank of the brook), nearly to the river. Then he turned back toward camp, following the east bank, but making détours, as before, to avoid the laurel tangles.

Presently he began to have a feeling that he was getting off his course — that he was not traveling up-stream in a direction which would parallel his down-stream course. Still, there was the brook, and he certainly was traveling *up-stream*. The fact that he did not recognize the stream whenever he came within sight of it — that the banks looked like those of a different brook — he accounted for by reasoning that the places he was seeing now might be spots which he had passed in his down-stream détours on the other side. Besides, there was so much laurel and so little noticeable high timber, with no conspicuous landmarks, that he kept on, fighting his way through the undergrowth.

“Wigwam Lost”

But where were the trail-crossing and the blazed spruce? Surely, the fisherman thought, I have not overlooked them. More brush-bucking and more misgivings. Finally a dead halt, a seat on a log and these conclusions: “First: I have not seen this country before. Secondly: I have not seen the blazed spruce, nor the trail crossing the brook. Thirdly: I have certainly traveled further *up*-stream than I did *down*, from the spruce. Therefore, I believe this wretched stream has a branch *east* of the one I followed, that the two forks join somewhere in the laurel tangle above the trail; that I missed that junction in one of my *détours*, and that I am now on the east fork, a little south but a good deal further east of camp. I could fight my way through the laurel downstream to the west fork and then back upstream to the trail and to camp. Or I might strike camp by heading west by north from here. On the other hand, I might miss it and have to fight this undergrowth for a mile or more before striking the tote-road leading to camp. Very likely I am within shouting distance of camp now. Anyhow, I am going to try.” There was a prompt response to the “Hello!” It proved that the fisherman’s diagnosis of his case was about correct, and in a few minutes he had met his guide and was on the way back to camp.

The Treacherous River

Doubtless hundreds of hikers in the wilderness — especially fishermen — could relate experiences very much like this one. And not a few could spin yarns about men who have been badly lost, and have had an ugly time getting out of a predicament actually as simple — at first — as the one just described, all because they have lost their heads — or most of the contents thereof. Mr. Kephart (in the chapter above quoted from), describes very plausibly a similar hypothetical case, as follows:

“In flat woods, where the water courses are few and very meandering, the vegetation rank and monotonously uniform in appearance, and landmarks rare, a man may return within two hundred yards of his own camp and pass by it, going ahead with hurrying pace as he becomes more anxious. In Fig. 1 a man leaves camp, X, in the morning, going in the direction indicated by the dotted line. He consults his compass at intervals during the day, tries to allow for his wind-

ings, and, returning in the evening, strikes the river at Z. If he follows its bank in either direction, he is likely to spend the night alone in the woods. If the camp were at A, and the homeward-bound hunter should reach the stream at B, he would be dumbfounded to find himself, apparently on the wrong bank of the river.

“Another easy way to get bewildered is as follows: In

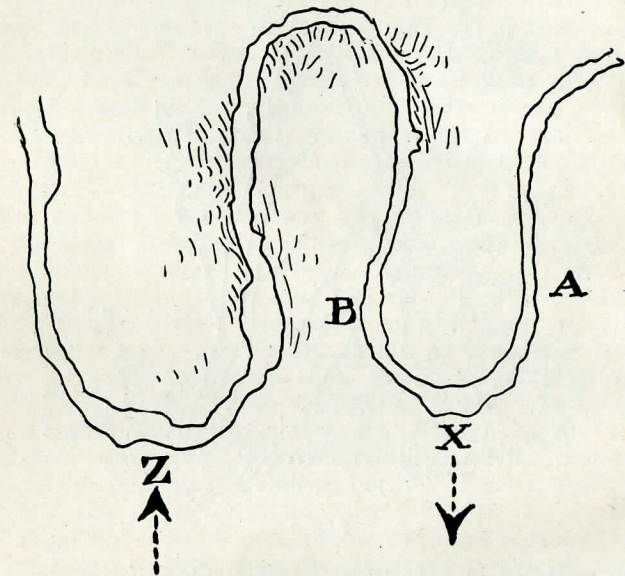


Fig. 1

Fig. 1 we will assume that the current runs from A to Z, that a party unfamiliar with the river is descending it in a boat, and that one of the men leaves the boat at A, going ashore to hunt along the bank. At X he comes to the mouth of a deep creek, or some other obstruction, or he starts the game that leads him back into the woods. Not long afterward he reaches the river again at Z, and after hallooing and firing a shot or two, but getting no answer, he hurries on down-stream, thinking that the boat got ahead of him while he was making his detour. The boat meanwhile has been rounding a great oxbow curve and may be a couple of miles behind the man ashore.

"In each of these examples the country is assumed to be fairly easy to traverse, and in each case the misadventure might have been avoided by a little forethought. A bush bent over, here and there [see Fig. 2], a blaze on a tree where the underbrush was dense, would have saved all that. Without such precautions, there are places where a man can get

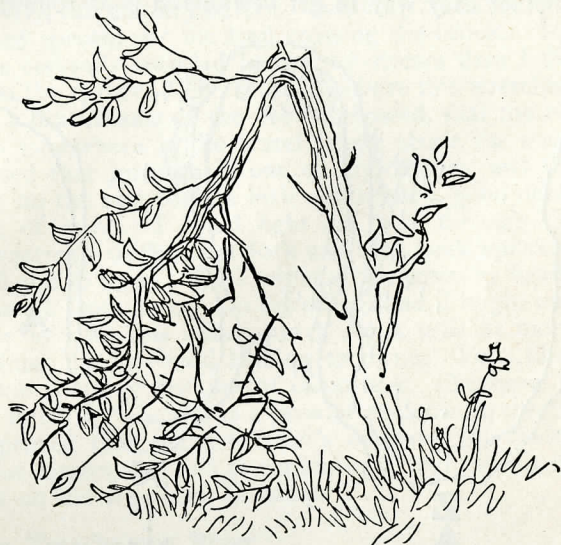


Fig. 2

badly muddled in a forty-acre tract. One of my companions once was lost from early morning until after nightfall in a thirty acre patch of blue [sugar] cane. He struggled until almost completely exhausted, and when we found him he looked like a scarecrow. At no time had he been half a mile from the cabin."

"Keep Your Shirt On"

Too much emphasis cannot be laid upon the importance of observing rigidly Rule I — as set forth above — wherever or however you are lost. To quote again — and from the same book:

"No matter where, or in what circumstances you may be, the moment you realize that you have lost your bearings,

there is just one thing for you to do: STOP! Then sit down.

"Now, any man can remember that. It is a bit of 'book learning' that no man can afford to despise. It is the one and only way to clear your wits, to drive off the demon of panic, and it is sure to help you out of your predicament.

"Then, if you are a smoker, light your pipe. If not, chew a twig. It won't take long for you to recover sense enough to know that if you stay right where you are until morning your companions, by that time, will be searching for you. They will be scouring the woods, hallooing, firing guns, scouting for your trail. Suppose you do have to stay out all night, alone in the woods; nothing will hurt you. The stories of bears or panthers pouncing on sleeping men are all tommyrot. So keep your shirt on. . . .

"But you don't want to stay here like a numbskull and face the sly grins or open ridicule of a searching party? Very well, the bugaboos are fleeing. Now take a stick, make a bare spot on the ground, and trace your probable course from the time of leaving camp to the time you first suspected you might be wandering astray. Mark on it the estimated location of such landmarks as you noticed. If you are not altogether a tenderfoot, you will remember how many streams and ridges you have crossed. Anyway, you will recall some features of the country you traversed. Not unlikely, when your mind has recovered its equipoise, you will be able to 'backtrack' without much difficulty.

"But in any case, no matter how confident you may be, DON'T take ten steps from the place where you are until you have marked it. If the place is favorable for a smoke sign (in flat woods it is of no avail) build a fire, with enough damp or punky stuff for a good while, and bank it with earth so it cannot spread. Or, blaze a tree on four sides — make big blazes that can be seen from any direction. . . .

"Then take note of the lay of the land around you, the direction of its drainage, the character of its vegetation, and the hospitalities that it offers to a night-bound traveler, in the way of drinking-water, sound down-wood for an all-night fire, natural shelter, and browse or other bedding. Now, when you start out to recover the trail, make bush-marks as you go along (see Fig. 3); otherwise it will be the easiest thing in the world to lose your way back to that blazed tree. . . .

"But if you don't find that back track of yours, and if no familiar landmark shows up before the sun is within an hour of setting, QUIT for the day. It is high time, now, that you go right to work and make yourself snug for the night. Your success or failure to-morrow will depend very much upon what kind of a night's rest you get."



One Blaze, *A*-way from Camp. Two Blazes, *To*-ward Camp.--
Kephart

Fig. 3

The foregoing excerpts have been quoted chiefly to indicate to the scout the *proper frame of mind* in which to face the scrape of being lost in the woods; for that, after all, is the all important consideration. All that Mr. Kephart and other similarly experienced and sensible woodsmen have to say as to ways and means of getting out of the scrape harks

back to the initial warning. KEEP COOL. DON'T GET RATTLED.

The training which every scout should have, especially that to be acquired by proficiency in the merit badge requirements for Camping, Cooking, Forestry, First Aid, Stalking, and of course Pathfinding, should come to his assistance when he is lost or astray, and it is assumed that he has at his command at least part of the information and practical efficiency derived from this training. Therefore, it seems unnecessary here to enter upon any elaborate description of how to extemporize a shelter for a night in the woods, or what kind of a fire to build, or how to make a browse bed, or, in fact, how to do any of the things needful to make oneself as comfortable as the circumstances will permit. Scouts will do well to consult carefully the merit badge pamphlets on the subjects just enumerated, while they are considering this vitally important matter, which may involve almost every phase of woodcraft.

How to Read a Compass

There is nothing especially difficult about the reading of compass bearings. One should stand facing squarely in the direction of the road or other feature whose bearing is to be taken, holding the compass in the palm of one hand, at the height of his breast. With the other hand one turns the box gently until the north (blue) end of the needle is over the north point. This is called "orienting" the compass. There is no need of trying to bring the needle to a complete rest; if it is in healthy condition, it is bound to keep on swinging and quivering slightly anyhow. All that is necessary is to make sure that it swings an equal number of degrees to right and left of the mark. Then one glances quickly over the pivot in the desired direction and reads on the far side of the box the graduation through or near which the line of sight passes. In any case the bearing can be read to the nearest 2 or 3 degrees.

Learn These Two Systems

On some compasses the degrees are numbered from zero all the way around to 360 (clockwise fashion); on others they are numbered in each quadrant from zero to 90. On the former style of compass, bearings should be read as numbers simply, as, for instance: 35, 124, 266, 318. On

the latter, on the other hand, the same bearings should be read as follows: north 35 degrees east (or, simply, north 35 east, but not 35 northeast, nor northeast 35); south 54 east, south 86 west, north 42 west. A scout should be able to use either system, and to convert either into the other.

Natural Compass Marks — Moss

Especial attention may, however, be directed to a few principles and tricks of the pathfinder's trade which every scout should understand, and should be able to apply accurately and promptly in the emergency of being lost. But he should be *sure* of these principles before he accepts and acts upon them. For example, probably everybody has heard that moss grows on the north side of a tree, a most convenient thing to know if it happened to be *true*, which, however, *isn't always the case*. (Remember, incidentally that the thin, gray parasitic *lichens* which grow on both rocks and trees, are not *moss*.) True moss is to be found on that side of the tree which *retains longest the most moisture*, and that may not necessarily be the north side. For example, moss will grow most readily on the *upper* side of a *leaning* tree, because naturally that side retains moisture longer than the lower side. Wherefore, a believer in the moss-on-the-north-side-of-the-tree theory, would be thrown completely off his course if he should be guided by the moss on a tree leaning to the north, for then, of course, the growth would be on the *south* side of the tree.

Again, moisture remains longer on *rough* bark than on *smooth*, and within the forks of trees and about their swollen bases, without any regard for the points of the compass. "Does it follow, then," asks Kephart, "that exposure has nothing to do with the growth of moss? Not at all. It merely follows that a competent woodcraftsman, seeking a direction from moss on trees, would *ignore* leaning trees, uncommonly rough bark, bossy knots, forks of limbs and the bases of trees, just as he would give no heed to the growth on prostrate logs. He would single out for examination the straight shafted old trees of rather smooth bark, knowing that on them there would be a fairly even lodgment of moisture all around, and that the wet would evaporate least from the north and northeast sides of the tree, as a general rule, and consequently that on those sides the moss would preponderate. He would expect to find such difference more pro-

nounced on the edge of thick forests than in their densely shaded interior. He would give special heed to the evidence of trees that were isolated enough to get direct sunlight throughout a good portion of the day, while those that were in the shade of cliffs or steep mountains, so that they could only catch the sunbeams in the morning or afternoon would be ruled out of court.

"You see how much more swiftly and surely such a man would reach a decision than could one who tried to take into account all kinds and conditions of trees, regardless of surroundings, and how much less he would have to puzzle over contradictory evidence. Among a hundred trees he might only examine ten but those ten would be more trustworthy for his purpose than their ninety neighbors. This is woodcraft—the genuine article—as distinguished from the mysterious and infallible 'sixth sense' of direction that, I think, exists nowhere outside of Leatherstocking Tales."

Mr. Kephart also records the interesting observation that *generally* "the feathery tip, the topmost little branch, of a towering pine or hemlock, points toward the rising sun, that is to say, a little south of east . . . leaving out of consideration those growing in deep, narrow valleys, or on wind-swept crests"; also that "the bark of *old* trees is generally thicker on the north and northeast sides than on the other sides."

All of this, and much more of the same sort, is not only good woodcraft as such, but is valuable information for the man who is lost in the woods to have in his head—provided he makes use of that appendage. As to other natural signs which may be depended upon to indicate the points of the compass when no sign of the sun can be seen, the present writer is disposed to accept the conservative conclusion reached by Mr. Kephart, who says:

Average the Signs

"No one sign is infallible. A botanist can tell the north side of a steep hill from the south side by examining the plant growth; but no one plant of itself will tell him the story. So a woodsman works out his course by a system of *averaging* the signs around him. It is this averaging that demands genuine skill. It takes into account the prevailing winds of the region, the lay of the land, the habits of the shade-loving and moisture-loving plants (and their op-

posites), the tendency of certain plants to point their leaves persistently in a certain direction, the growth of tree-bark as influenced by sun and shade, the nesting habits of certain animals, the morning and evening flight of birds, and other natural phenomena, depending upon the general character of the country traversed. Moreover, in studying any one sign a wise discrimination must be exercised."

As to the "Sixth Sense"

The present writer holds also (with Mr. Kephart) that a good deal of what has been written and said about the mysterious "sixth sense," or "bump of locality," or special "sense of direction"—call it what you will—which enables the "natural woodsman" to avoid becoming bewildered, is sheer nonsense. He knows several exceedingly expert woodsmen and hunters, born and reared in or at the very edge of forest land, in which they have passed practically all of their lives—hunting, fishing, lumbering or just roaming. Yet every one of these men confesses to having been lost, some of them several times. The true woodsman is pretty likely to be a truthful person, especially when he speaks about himself. Mr. Browne's Indian—in the preceding pages—evidently was lost, to all intents and purposes (as has been many another savage), even though his woodcraft did come to his rescue before that of the white man became operative—for reasons which Mr. Kephart probably has stated correctly.

And so, being lost, and then recovering one's sense of direction, may doubtless be traced, in the great majority of cases, to the exercise of common sense, acting upon definite facts furnished by the *memory*; rather than to the operation of any mysterious sixth sense, or any other uncanny faculty possessed only by a favored few. As Mr. Kephart intimates, such notions may be worked into interesting fiction; but the man who knows the woods is likely to discern in them more of humbug than of the horse-sense, of which woodcraft—your lost man's surest guide—is chiefly composed.

Scouts (and others) who live in cities of considerable size are probably more handicapped in the woods than they realize, because of having become accustomed to change their direction in traveling almost always by an angle of fully ninety degrees, as a result of the conventional rectangularity

of most city street plans. In hundreds of cities the streets run, almost without exception, north and south or east and west. How readily a traveler may go astray whose sense of direction is governed by this right-angle principle, it is easy to imagine. Indeed, if he fails habitually to take into serious account any change of direction save one squarely to the right or to the left, he is as good as lost before he starts out to travel in the woods.

The present writer is convinced that the deficiency stated above does really affect those who are subject to it. He has noticed that scouts who have lived all their lives in New York City, for example, and who, therefore, are accustomed chiefly to right-angle turns, are likely to lose their way in a comparatively short hike through the woods by a route which involves a few changes of direction at comparatively slight angles. Thus, scouts who have tried to find the camp of the writer's troop, by a trail involving three or four more or less abrupt, and other lesser changes of direction, have gone quite far to the north, south or west of it—the approach being from the south-west.

Fortunately the wooded area in which those wanderings have occurred is comparatively small (about two miles long by a mile broad), so that it would be practically impossible to become lost therein with serious consequences. But it is certain that one whose sense of direction becomes so utterly confused by a few turns in comparatively open woods, would speedily become hopelessly lost in a real forest.

The point, however, is that in these instances the scouts have gone astray chiefly—as the writer believes—because of their crude sense of direction created by the right angle plan of city street lines. If this theory be sound, it would follow that the average of efficiency in this phase of woodcraft should be higher among country scouts than among city scouts, because the country boy's environment and customary routes are less likely to involve merely right angles and straight lines.

The tendency of the person who has entirely lost his sense of direction, to "circle," is well known and has been repeatedly proved by experiment. Indeed, it is probably true that no man can walk in a perfectly straight line without the assistance of at least one of his physical senses, and of these sight is of course the most important. Several years ago the writer saw the experiment tried on about a dozen men, who

were blindfolded, and then told to walk straight ahead in as nearly a straight line as possible. Their trails were all plainly marked in a light fall of snow, and all of them showed more or less curve. The curve was not pronounced in some instances until the walker had proceeded fifty or sixty yards (the exact figures are not recalled), but soon or later it began to develop. Moreover, in all but a few instances the drift was more or less pronouncedly to the right, which, the writer believes, has been shown to be the case whenever similar experiments or investigations have been conducted carefully.

The most plausible reason for this circling is that it is due to the unequal strength of the two sides of the body. That is, if the right side be stronger than the left—which usually is the case—longer strides will normally be taken with the right leg than with the left, and this will cause circling to the right. The circling seems always to occur when one becomes hopelessly lost, and is likely to continue until the victim drops from sheer exhaustion. One instance on record is that of a lost man who after walking steadily for six days and nights finally stumbled into a camp only about six miles from his starting point. Five miles of travel in a straight line in any direction from that point would have brought him out of the woods, and incidentally would have saved him the loss of his feet, both of which were so badly frozen that their amputation was necessary.

Traveling by landmarks, or by compass, are the only sure ways to avoid circling. Landmarks should be observed carefully and frequently, for as one proceeds they are likely to change their appearance, sometimes very considerably. This applies especially to mountains or hills whose upper slopes show many crags or boulders, the outlines of which may differ from different viewpoints so radically as to transform almost completely the appearance which they presented when they were first observed.

The usefulness of the compass to the lost man is, of course, very great, provided he employs it intelligently. And part of that intelligence will be shown by *absolute confidence* in the instrument, for the present purposes. "Magnetic variation," that is, the difference between the magnetic north, as shown by the compass, and true north, may be disregarded for ordinary pathfinding in the woods, as the deflection is not sufficient to throw the traveler seriously off his

desired course. But beware of *local* attraction, such as might be established if the compass were held near any iron or steel object, like an axe or a knife or a belt buckle. To make sure that the needle is not being affected in this way, put the compass on the ground and then hold it in your hand, and note whether the needle keeps its position in both places. Very rarely a compass may be affected by a mass of iron ore beneath the surface of the ground.

It is a good plan to carry constantly a map of the country which one intends to traverse, or of the region about his

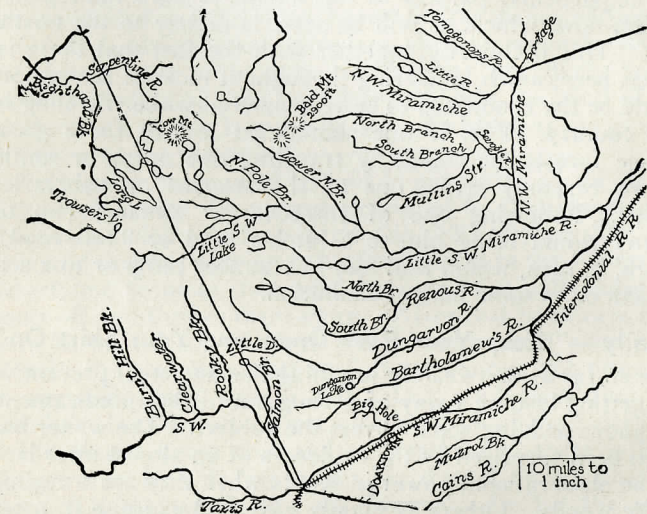


Fig. 4

camp. This map should be on a scale sufficient to show the main topographic features, in no more detail, however, than is needed to indicate, in a general way, their dimensions and most conspicuous physical characteristics. The streams should be shown with especial care. Such a map may ordinarily be found in the possession of the government official usually the custodian of such documents, and who probably will be willing to let you make a tracing of it. This tracing should be made on tracing linen with India ink or an indelible pencil. Paper of any kind is almost certain to become creased, with repeated folding, so that presently

the map will be in several sections, one or more of which is likely to be lost.

Figure 4 (p. 25) is a reproduction of a map of this kind. It was traced on linen from a large map of New Brunswick, furnished by the surveyor-general of the Province at Fredericton, and shows some of the best of the moose country in that fine big game region. Practically all of this region is almost perfectly flat, the only elevations (excepting those shown in the northwest northern corners of the Province) being low ridges.

The particular purpose of this map is to show the region's stream-flow, which, as will be seen, is mainly to the northeast. This peculiarity, together with the fact that there is, or has been, much lumbering throughout most of the region, would be the conditions to be remembered while traveling in this country. For, if one should get lost in those great spruce forests, he could, by traveling due north or south, almost certainly strike one of the streams or tributaries shown. Following one of these larger streams (up or down) would bring him to a lumber-road or "tote-road," which, in turn, would lead him to a lumber camp or to a settlement or to some human habitation.

Finally—"Keep Your Eyes Open, and Your Shirt On"

In so far as there can be anything like an actual preventive for getting lost, or a way of getting out of that predicament, the above heading about covers the subject. The writer has often been surprised by the evidences of an almost utter lack of the observational power in scouts when they are traveling in the woods. Others as plainly have and exercise it, more or less effectually. These conditions are likely to reflect pretty accurately the attitude and the efficiency—in this particular respect—of the scoutmasters concerned. Like breeds like here as elsewhere.

Of course, this ignorance of the woods is lamentable merely on the score that it makes being in them a matter of no particular significance or interest. But from the point of view of the pathfinder, ignorance of this kind is a serious matter. In the predicament of being lost, the boy or man with an undeveloped faculty of observation, is at a distinct disadvantage as compared with the one who can read at least part of the interesting stories which are constantly being put before him. The one will remember nothing because really

he has *seen* nothing. The other will have seen and heard understandingly many, many things. Of those he is likely to recall a few, at least—that curious case of vine strangulation; the boulder apparently split by the growth of the roots of the big oak towering above it; the brown flash of the mink as he plunged into the brush; the insects cross-fertilizing the violets; the rumpus raised by the crows who had found an owl in a hollow tree; the chorus of sweet voiced toads in the puddle; or perhaps the majestic soaring of the eagle, upward and upward, until he had vanished in his wonderful world of blue, bound for the throne of Jove.

Of such observations some are almost certain to be remembered, and with such recollections are likely to be associated ideas of time and place; whereas the mind of the unobservant person is apt to be an entire blank as far as such impressions are concerned.

Perhaps no more need be said in exposition of the necessity of observing the precept expressed by that eloquent, if somewhat indelicate slang injunction, "Keep your shirt on." It is said that the poor wretch who gets lost in the Australian desert, and becomes stark mad from thirst, usually takes his boots off and throws them away. After that he always runs until he falls dead. At least, he is always dead when he is found. "Keep your shirt on" is, of course, not proposed in any such sense, though it is a fact, we believe, that lost men have been known to tear off almost all of their clothing.

But if one keeps cool and acts rationally, there is little danger that he will lose either his mental or his physical shirt. Of the two losses, the former is by far the more serious, for once bereft of his reason, the case is hopeless. There is no use denying that this is a real danger, but on the other hand it is one which easily may be and usually is averted.

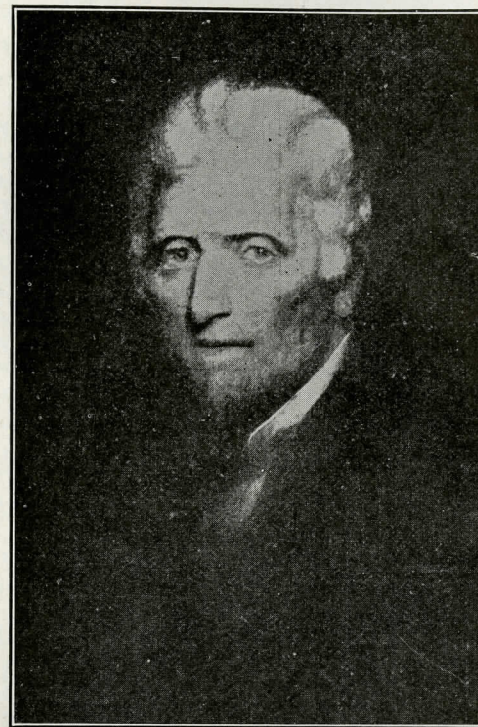
DANIEL BOONE

Historians and biographers (of a certain kind) have a disconcerting habit of rubbing much of the lustre out of the lives of the illustrious. That is what several of them have tried to do in recent times to Daniel Boone's fame as a pioneer and a colonist, in which capacities, we are told, his services have been "greatly over-estimated." But no historian, biographer or other person (as far as the present writer is aware), has ever had the temerity seriously to belittle Daniel's almost uncanny skill as a pathfinder and all-round woodsman; and it is in those lights especially that the present sketch will attempt to show him.

The bare biographical facts concerning Daniel's earlier years are briefly as follows: He was of English descent and was born near the present city of Reading, Pa., in 1734. About 17 years later his father emigrated with his entire family to the valley of the Yadkin river in what is now Davis County, N. C. Daniel had a little—apparently a very little—schooling, and worked, somewhat fitfully, it appears, on his father's farm. For it also seems that the creatures of the woods and their ways interested him much more than did the welfare of farm animals, and the operations incident to making food grow out of the ground. Consequently the cows were often in the corn or elsewhere where they shouldn't have been, while Daniel was in the woods setting traps for foxes and 'coons. He seems, however, to have been able to stay in one place long enough to learn blacksmithing (his father's trade), and it was in the capacity of wagoner and blacksmith that he accompanied the bull-headed Braddock's expedition which was all but wiped out by the Indians (1755). Ten years later he was in the forests in Florida; and in 1767 he made his first journey to Kentucky where he roamed the woods for another two years, fighting Indians and taking beaver, bear and deer-skins.

Meanwhile the English king (George III) had done an uncommonly stupid thing, even for him. With the French

beaten in America, and the great West thereby put at his command, he proceeded to issue a proclamation (in 1763) which forbade anyone taking "patents for lands beyond the heads or sources of any of the rivers which fall into the Atlantic Ocean from the West or North-west." The pur-



DANIEL BOONE

From the portrait by Chester Harding, made in 1819 when Boone was 85 years old

Reproduced from Thwaites's *Daniel Boone*, by permission of the publishers, D. Appleton & Co.

pose of this foolish edict was to restrain what Lord Hillsborough (Secretary for the Colonies) called the "roving disposition" of the colonists, and to keep them along the seaboard and the banks of the rivers, which made waterways from the coast inland. But as one historian remarks:

"Hillsborough might as well have adopted the plan of the ignoramus who, when methods for keeping the Indians from crossing the frontier were being discussed, suggested that a strip of land along the entire western frontier be cleared of trees and bushes, in the belief that the savages would not dare to cross the open! Yet the agent of the secretary set to work to mark out a boundary line which should connect the western lines of Georgia and New York and so accomplish the limitation of Virginia."¹

This fatuous project had no more effect upon the Virginians — who would have been most immediately affected by it — than to cause them to send to Fort Stanwix (on the present site of Rome, N. Y.) an agent of their own to negotiate with the Indians of the Six Nations for some of the land which lay on the western side of Hillsborough's imaginary line. Out of this move came the famous treaty of Fort Stanwix (signed in 1768), which disregarded the Hillsborough line and made the Tennessee River, instead of the Great Kanawha, the western boundary of the land in which the Virginians wished to settle. In fact, the effect of this treaty was to add to the territory controlled by the thirteen Colonies, nearly half of the immensely valuable central western region of the continent. The region north of the Ohio river remained in the possession of the Indians, as it had been since prehistoric times. Of the ceded territory an old Indian chief, who appeared to comprehend what had been done, said afterward to Daniel Boone, "Brother, we have given you a fine land, but I believe you will have much trouble in settling it."

It is safe to suppose that Daniel had laughed at Lord Hillsborough's line and the idea it was supposed to represent. He would have been about the last man of his times to "stay put" by anybody. We have seen that the year before the Fort Stanwix treaty was signed, found him wandering in the woods of the promised land of Kentucky. In 1771 he returned to his family in the peaceful valley of the Yadkin "with the determination," he said, "to bring them as soon as possible to live in Kentucky, which I esteemed a second paradise, at the risk of my life and fortune" — from which utterance we have further proof that Daniel was surer of his rifle than he was of his rhetoric.

¹ A. B. Hulbert, *Boone's Wilderness Road* (1903), pp. 20-21.

At any rate, Boone headed a party composed of his own and five other families, who (in 1773) set their faces westward, bound for the blue grass region by way of Cumberland Gap. This was the beginning of the travel over the trail which afterwards became famous as "the Wilderness Road," or "Boone's Wilderness Road," as it was often called.

The idea that the Cumberlands are gloomy looking fellows from this point, has occurred to more than one beholder of them since Boone's time. For instance, here is a significant estimate by a modern writer:

"I have myself looked upon this lofty range from Powell's Valley, and can appreciate the feeling of dread and desolation it inspired in the minds of the men, women and children of Boone's company. They might well have supposed they had reached the abode of monsters, and a place where no man could dwell. They were far beyond the reach of human aid; before them frowned that rocky wall which became more gloomy and dismal as the sun went down behind it. To add to their terrors, they were attacked by the Indians; six were killed, including Boone's eldest son, James. What wonder they made their way back, disheartened and discouraged! The wonder is they were ever induced to attempt another expedition."¹

But Boone was no man to abandon a project because it failed on the first trial. Within a year he again threaded the trail through the gloomy Gap, now alone. And in about two months he retraced the perilous journey. Thereupon, as he records, he was "solicited by a number of North Carolina gentlemen, that were about purchasing the lands lying on the south bank of the Kentucky River from the Cherokee Indians to attend their treaty at Wantauga, in March, 1775, to negotiate with them, and members of the boundaries of the purchase. This I accepted, and at the request of the same gentlemen undertook to mark out a road in the best passage from the settlement through the wilderness to Kentucky, with such assistance as I thought necessary to employ for such an undertaking."

It is practically impossible fully to realize to-day the difficulties and dangers which the discharge of this important commission must have involved. From the Gap, Boone

¹ Thomas Speed, *The Wilderness Road* (1886), p. 25.

followed the "Warriors' Path," a trail traveled by the Indians to and from their villages on the two Miamis (Big and Little) and the Scioto rivers. It was a "trace" which they used both when hunting and when on the war-path, and was therefore dangerous at all times. It ran almost directly north from the Gap to the Ohio River at the mouth of the Scioto. Boone followed this trail northward from the Gap for about fifty miles, and then struck into a buffalo trail. Holding a winding course (generally westward) he passed through the country now included in Madison County, Kentucky, and thence down Otter Creek to the Kentucky River. On that stream, about a mile below the mouth of Otter Creek, Boone built his fort, around which grew up the settlement called Boonesborough.

Including the distance from Wantauga settlement to the Gap, and thence through the Kentucky wilderness, the trail was more than 200 miles long. Of the difficulty of Boone's task we get some hint from the following description (by Mr. Hulbert) of the country through which it passed: "The territory north of the Ohio River was filled with Indian nations some of which had reigned there from times prehistoric. This was likewise true of the country south, where the great southern confederacies had held sway since the white man came to this continent. But between these inhabited areas lay a pleasant land which any tribe would have gladly possessed had there not been so many rivals for it. Consequently it became a 'dark and bloody' land where a thousand unrecorded battles were fought by Indians from both North and South who had the temerity to come there to hunt, or by armies who were hurrying through it in search of their foes who lived beyond.

"No Bouquet had pierced through to the Cumberland to release prisoners who might bring back reports of the land. No missionaries had carried their 'great and good' words to this battle ground of the Nations and returned with tidings of its splendid meadows and their fertility. One or two adventurous explorers had looked there and brought back practically all that the world knew of it. But they had never visited the most pleasant portions and knew little, if anything, of its real value. And all the Indians seemed to know was that it was a bloody border-land where no tribe could hunt in peace; where every shadow contained a lurk-

ing foe; and where every inch of soil was drenched with blood."

This was Boone's greatest pathfinding feat of real pioneering value, and of it Mr. Speed, a very careful and thorough student of the history of the times, says: "The road marked out was at best but a trace. No vehicle of any sort passed over it before it was made a wagon road by action of the State Legislature, in 1795. The location of the road, however, is a monument to the skill of Boone as a practical engineer and surveyor. There is a popular idea that he was merely a hunter and a fearless Indian fighter; but a consideration of his life shows that he impressed the men of his time as being a man of intellectual capacity, a sound, and broad judgment, and worthy to be entrusted with many important undertakings. It required a mind of far more than ordinary caliber to locate through more than two hundred miles of mountain wilderness a way of travel which, for a hundred years, has remained practically unchanged, and upon which the State has stamped its approval by the expenditure of vast sums of money appropriated for its improvement." To which Mr. Speed might have added that Boone's task was made doubly difficult by the necessity of keeping constantly a sharp lookout for the bands of prowling Indians who did not hesitate to kill on sight, or at least to capture and to carry away into captivity, any white man found in that region.

Though it had no definite pioneering value, the feat of pathfinding and woodcraft by which Boone probably will be longest remembered was his remarkable escape from the Indians and his return through the forest alone to Boonesborough in time to warn the settlers of an Indian raid which might have meant the extermination of that settlement. The episodes included in this adventure, could anything like a full recital of them be presented, would furnish material enough for a good sized volume. In fact, by considerable exercise of the imagination several such books have been written. But the amount of actual fact contained in these narratives is comparatively small, because the authentic sources are few, condensed and often somewhat vague, which is likely to be true of most historic records of this character.

The need of salt — a prosaic need but a very urgent one

among settlers dependent largely upon meat for their food — was the immediate cause of this picturesque adventure, and gave Boone opportunities to display his remarkable abilities both as a woodsman and as a shrewd diplomat, in dealing with the red men. This need developed at Boonesborough during the year 1777, in consequence of the increasing hostilities of the Indians, which made dangerous travel over the Wilderness Road, the route by which salt had been sent to the Kentucky settlers from eastern points where it could be produced. To enable the pioneers to supply this need by drawing upon the salt springs which were numerous in Kentucky, the Virginia government sent to them several large kettles to be used in boiling down the salt water.

Early in January Boone led the first of these salt-boiling parties (composed of thirty men picked from the Boonesborough settlers), to the Lower Blue Licks a short distance from the fort. Half of the men at once set to work boiling down the salt water, and the other half, under command of Boone, watched for Indians and kept up the meat supply. As usual Boone put out a line of traps. One evening while he was returning with a packhorse loaded with beaverskins and buffalo meat, he was ambushed by four Indians who took him to the nearby Shawnee camp, occupied by about one hundred and twenty warriors commanded by Chief Black Fish. Here he learned that the chief was planning an attack, in the near future, upon Boonesborough. For this attack he was invited to act as guide, though the Indians told him he must first prevail upon the other salt-makers to surrender.

Here was Boone's chance to employ strategy of a kind which he felt would throw the Indians off their guard. He knew that the palisade at Boonesborough was only about half completed, and that the settlers could hardly withstand the attack of the Indians, who outnumbered them about five to one. Therefore he set his wits to work to delay the attack. He agreed to induce his companions at the salt springs to surrender and to accompany the Indians to the Shawnee villages north of the Ohio, with the understanding that in the spring the party would move on Boonesborough. There, he declared, he would persuade the settlers either to join the Indians or to go to Detroit and surrender to Governor Hamilton who had offered to pay £20

for every American prisoner delivered to him in good condition.

Boone is known to have been usually a man of few words, but it seems that he could talk plausibly when the occasion demanded, as it did now. For as the Indians listened they were impressed, and the majority were soon in favor of accepting his proposal. Once he had made good part of his plan by actually inducing the salt-boilers to surrender, the opposition developed and demanded the execution of all except Boone. But a pow-wow was called, Chief Black Fish presided, and Boone was permitted to address the savages through a negro interpreter. The resulting vote was too close for comfort, with 59 for executing and 61 for sparing the captives, but the savages accepted the decision of the majority.

During the northward march the captives were bound every night, and they were closely watched during the days. All suffered much from hunger, and at times were reduced to eating slippery-elm bark. At their destination, a Shawnee town three miles north of the present city of Xenia, Ohio, the Indians adopted into their tribe Boone and 16 of his companions. Boone himself was chosen by Chief Black Fish to be his son and was treated with every consideration, except that he was closely watched at all times and given no opportunity to escape. But though the conditions under which the Indians lived were exceedingly filthy, and the work he was forced to do irksome, he accepted everything with apparent good nature and resignation, making every effort meanwhile to do nothing to arouse the resentment nor to excite the suspicions of his hosts. Meanwhile he lost no chance to learn all he could of the plan to attack Boonesborough.

After about a month of this life Black Fish and a large party of his warriors traveled northward through the forest to Detroit where the chief intended to secure Governor Hamilton's bounty for the salt-makers who had not been adopted into the tribe because of their refusal to become reconciled to their captivity. Boone was taken along on this expedition and was made much of by Hamilton, to whom he proved his loyalty to the British by means of his old commission as a captain in the British army, which was signed by Lord Dunmore, and which Boone had always carried in a leather pouch slung about his neck. Hamilton even tried to

ransom Boone from Black Fish for £100, an offer which the "father" refused, protesting his love for his "son"—whom he really wanted to keep in his tribe to serve as leader in the expedition against Boonesborough.

When the party returned to the Ohio camp, Boone saw at once that the Indians were making definite plans for the attack on Boonesborough, and knew that he had no time to lose. But the watchfulness of the Indians seemed to have diminished little, if any, and Boone realized that he must take a desperate chance if he would save his relatives and friends at the fort. That chance came at last while he was with a party of Red Fish's warriors who were boiling out salt at some springs on the Scioto River, about twelve miles south of the present city of Chillicothe, Ohio.

Boone's unconscious accomplices were a huge flock of wild turkeys which appeared suddenly in the woods near the salt-boiling savages. The quick-witted woodsman at once saw this opportunity, and he immediately pointed out the game to the Indians, and ostensibly planned a way of stalking the wily birds. His apparent intentness upon this hunt, and the skill and stealth of his approach, evidently deceived the Indians completely, and they incautiously let him get out of their sight. Once he was sure he had eluded his captors, we may imagine how rapidly the woodsman widened the distance between them. He knew that the Indians must soon discover his absence, and be hot on his trail—if they could find it. His course lay about southwestward through a wilderness of which he knew nothing from previous travel in it. The only food he had was a strip of buffalo's meat dried, which he had secreted in his hunting shirt. A rifle he also had, and he at once found some powder and bullets which he had hidden in the woods against this emergency.

Often running for miles at a time at full speed, where the ground permitted that gait; then swinging ahead in the long, rapid stride of the seasoned woodsman, he bore steadily on his way through the pathless forest. He had intentionally made his start in broad daylight, for though darkness would have made concealment easier, he could travel faster in daytime, and he relied upon his skill and speed to keep him as much out of sight as possible. Fortune favored him that first night with bright starlight and not once did he slacken his pace. According to his own account he traveled at

top speed from the moment he was sure he was out of the sight of his sometime captors not only all of the remainder of that day, but throughout the night.

What natural signs and landmarks Boone used in this historic hike we have no means of knowing, for there is no authentic detailed narrative of the journey. But we may be sure that he employed all that were included in his very complete knowledge of woodcraft, and always with unerring accuracy. Of that we have definite proof in the known facts concerning the distance he traveled and the time consumed in the journey. In short we know that it is 160 miles from the point at which Boone escaped from the Indians to the site of the Boonesborough fort, and that he actually traversed that distance and without nourishing food excepting the buffalo meat—in *four days*, or at the average rate of forty miles every twenty-four hours, and mostly through a wilderness which he had never before seen.

Long ago given up as dead, Boone's sudden reappearance among his people must indeed have been dramatic. His wife, sharing the general belief that he had been killed, had returned to the Yadkin valley, accompanied by the other members of the family, excepting her daughter and Boone's brother Squire Boone. What concerned Boone more than all, however, was that during his four months' absence, despite the reports of the Indian preparations for attacking the fort, the defenses were still incomplete. With his usual energy and skill, he at once organized the men and set to work upon the stockade which, with the four corner block-houses, were built and equipped for effective defense. Of the vicious attack and siege by fully four hundred savages, and of the skillful and obstinate defense by the garrison, directed by Boone, no description can be given here. But that after ten days of almost incessant attack, during which the Indians showed great courage, and resorted to all of the devices known in their style of making war, they were obliged to withdraw, fairly defeated and discouraged, was a triumph due primarily to Boone's truly wonderful feat of pathfinding.

BIBLIOGRAPHY

Many of the books devoted to camping and outdoor life contain more or less extended discussions of pathfinding. This applies especially to Horace Kephart's excellent work, *Camping and Woodcraft* (2 vols., \$1.50 each), frequently quoted from in the preceding pages.

The remarkable career of Daniel Boone has been the subject of several books, whose writers have drawn more or less upon their imagination in piecing out the narrative. The most trustworthy biography is the one which was prepared by Reuben Gold Thwaites, who consulted historical documents for the facts of Boone's life, and made of them a readable narrative.

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