

NAVIGATION

Techniques and skills for walkers



Pete Hawkins

NAVIGATION



About the author

Pete Hawkins has been teaching walkers to navigate for over 35 years. He runs the Silva Navigation School from his home village of Tideswell, in the Peak District.

As a writer and journalist, he has contributed to a variety of outdoor magazines for many years as well as contributing to BBC local radio. He has also spent many years leading walking holidays around the world.

Other Cicerone books by the author

Map and Compass

This book is dedicated to Clare and Stephen – two people I am immensely proud of – and to Sue who gives me the space to pursue my dreams.

NAVIGATION
TECHNIQUES AND SKILLS FOR WALKERS
by
Pete Hawkins

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PREFACE

By Alan Hinkes, OBE

I have always been fascinated by maps. Perusing OS maps for O-level geography at Northallerton Grammar School was a pleasure for me. My hillwalking began over 30 years ago on the North York Moors and finally led me to the Himalaya, where I climbed all of the world's highest mountains: the fourteen 8000m peaks.

Weekend school trips would be spent tramping the moors and dales, learning to map read. I soon learnt how to take compass bearings and navigate, often in the rain and mist – thick hill clag, as we called it. As a teenager it gave me a thrill and sense of achievement to be able to find my way over featureless terrain and safely lead a party in the hills.

When working as an outdoor education teacher, basic map reading was usually on the agenda, and I always tried to make it fun and simple. Pete has a knack for writing a book that is both interesting to read and which covers all the finer points of map reading and using a compass to move safely on the hills.

As a mountain guide I've been instructing and guiding in the hills for many years, and I am aware of some people's anxiety about navigation. Pete's book will help to raise your knowledge of this essentially satisfying skill. Whether you are a beginner or an experienced hillwalker, there is plenty of information to be had out of this book. Pete knows his stuff!

I have been climbing all over the world, yet still relish a day in the British hills with my map. This book will make your hillwalking and map reading more enjoyable.

Get out there, navigate and enjoy yourself!

Alan Hinkes, 2007

FOREWORD

I started using the humble map and compass in earnest over 35 years ago, and for all those years I have been their greatest advocate. Over the three and a half decades both have given me immense pleasure, and hundreds of lucky souls have learnt that pleasure from me too!

Looking back over my 35 years of teaching navigation, I find myself thinking about what has and hasn't changed. The ability to use a map and compass is as important now as it ever was. Something else that hasn't changed is that the majority of people I see out on the hills don't seem to have the requisite navigation skills and appear to complete a walk more through luck than judgement; a guidebook or a route taken from a magazine is no substitute for being able to plan and execute your own route.

Something else that hasn't changed is the fact that acquiring the right skills to navigate safely is easy. The book you have in your hand is a great first step and may be all that you require, but adding a practical, hands-on course, like those I run through the Silva Navigation School, can quickly transform you from a bumbling, always-getting-lost walker into a confident hillwalker.

What has changed, certainly over the last three decades, and especially during the past 10 years since this book was first published, is the use and availability of navigation technology. In the first edition of this book, technology was treated as an add-on as GPS units were generally unreliable and complicated to use. Over the past 10 years the growth in the use of smartphones has not only placed

simple navigation technology in most people's pockets, but it has also helped simplify dedicated handheld GPS units.

In this new edition, navigation technology has been incorporated throughout the book. Each section will take you through the more conventional way of doing





things while also offering technological navigation solutions. I will highlight times when technology doesn't provide a solution, as well as the rare instances when technology can supersede conventional, old-fashioned ways of doing things.

In adapting this book to reflect the growth of technology in navigation, I still remain firmly of the opinion that being able to read a map and compass properly, without relying on technology, is vital. You should never bypass these essential skills and head straight for the technological solutions. Technology can fail and can also be misleading; good map reading and compass skills will never let you down.

Pete Hawkins, 2019

CHAPTER 1

Why use a map and compass?

Glance along the bookshelves of any outdoor equipment shop and you'll see a wealth of guidebooks to every corner of the UK and the world. The quality will vary, but all will contain a number of routes in your chosen destination along with some kind of a map: perhaps a simple sketch map or an extract of the full-colour official map with the route overdrawn. The better guides will also provide some information on the history or ecology of the area.

Guidebooks are an ideal way of getting to know an area in advance; study the guidebook and locate the most interesting places. However, many people simply use the guidebook to direct them around the route. I advocate a different approach. Take out the map of the area you intend to walk and compare the guidebook route with the real map. Put the guidebook away and turn the suggested route into something that suits your purposes, depending on where you are staying, proximity to a bus stop or safe place to park, or perhaps an interesting feature you've seen on the map that wasn't mentioned in the book, and so on. The walk then becomes yours and you can use your own map skills to follow the route rather than rely on the book.

As you progress through this book, you'll notice your map skills improving. You will be looking at the map in far more detail than previously. The symbols you missed before, or ignored, will be more familiar; you'll be able to spot features on the ground that you've identified from a close study of the map. Your days of getting lost will fade into distant memory, your confidence will increase and, thus, your reliance on guidebooks will decrease.

So, what about the compass? What role should this play in your walks? Most walkers carry one in their rucksack, but few know how it works. Rest assured it is a simple tool to use and can make a walk in poor weather or darkness a far safer and more enjoyable experience.

Knowing the right compass techniques in bad weather or at night is invaluable. If you know you can confidently continue with your route, or come up with a safer alternative, you're less likely to panic and get into greater danger. If you're walking with less-experienced

companions, your confidence may be what it takes to turn a potentially terrifying situation into an enjoyable if challenging walk.

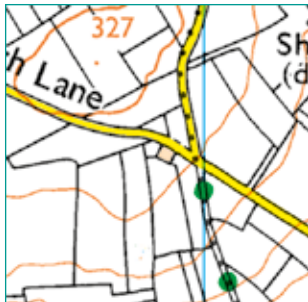
Compasses can also play a role in decent weather, and if kept handy, and not stuffed into your rucksack, can help you decide quickly which of two paths is the correct one or help in identifying a landform to aid your navigation.

Most walks, of course, can be enjoyed without using a compass, but it is important to remember that learning to use a compass once, then forgetting about it is not a good plan. Regular practice will mean that when you hit bad weather or fading light, or are in remote countryside with few features, you will be able to use your compass successfully.

The same advice applies to all the other skills you'll learn in this book. Knowing when and when not to use them is just as important as knowing the skills themselves. Pulling the right technique out of the hat at the right time will make for a far more enjoyable experience when out in the hills rather than fastidiously applying every skill and technique all the time. By all means practise and show others that you can use a compass, but you must also learn when using one is appropriate and when you can navigate sufficiently well without.

Even the most experienced walker will become uncertain of their location at some stage. They'll know roughly where they are but may not be sure, for example, where they are in relation to a particular path that will take them off the hill. Simple locating techniques will come into play in such circumstances.

Figures 1.1a & 1.1b As you become more familiar with map reading, errors on the map shouldn't throw you. The map (Figure 1.1a) shows a single large building to the west of the road junction. On the ground there are at least five buildings (Figure 1.1b.)





Becoming familiar with UK maps that have different scales, and which are produced by different publishers, will help you adjust to using foreign maps. Instead of sticking to a 1:25,000 OS map, take out a Harvey map or a 1:50,000 or 1:40,000 map, occasionally. The more variety you experience the quicker you'll adjust when abroad.

It is also entirely possible to find a mismatch between the ground and the map (see Figures 1.1a & 1.1b). A good navigator will not be thrown by the unexpected and will study the detail of the map, comparing it with what they see in front of them. One aspect may be wrong or missing, but other features around should confirm your location.

PRACTICAL EXERCISE

Take a map of your local area and choose a short walk of a couple of kilometres long. As you walk this route, try to match the features on the ground with those marked on the map. How accurate is it? Are there features on the ground not shown on the

map (and vice versa)? If so, you need to decide whether the presence or absence of those features would affect the accuracy of your navigation. Would you use a particular building, for example, as a point to look for prior to a change in direction? Would the absence of the building on the ground mean you would miss the direction change?

This exercise comes into its own when you are using unfamiliar maps (perhaps when abroad). Study the map closely and see how well it matches the ground before setting off to remote areas where you have to rely on it. Bear in mind also that the map symbols may differ from those you are used to.

Does the map match the features on the ground, and how well? The level of accuracy will obviously affect how much you rely on the map. If it's not very accurate, navigate with care. Also bear in mind that urban areas (even in the UK) are resurveyed far more regularly than rural areas because changes are more frequent. Changes do also occur to the landscape in rural areas, however, and you should never assume that any map is 100 per cent accurate. They become historical documents as soon as the ink is dry

Figure 1.2 is a favourite of mine. After this book was first published, the OS mysteriously updated their maps to reflect the altered wall patterns they could see from the top photograph. However the wall patterns had also changed either side of the photograph; these stayed wrong on the updated map! I felt honoured that they used me as a source for their mapping! Since that initial update they've checked again and revised all the walling in this area.

So, what role does technology play in ensuring we can enjoy a good walk, run or ride in the hills? Anyone who knows me will be familiar with my views, which have largely gone unchanged in the 20-plus years that GPS receivers have been available for use in the hills. I am a firm believer in being able to use traditional map and compass skills and not being reliant on technology in any way. That said, there are times when having access to a bit of tech in your pocket can make your walk safer, more enjoyable or more efficient.



Figure 1.2 Compare the map extract with the top photograph. Some of the walls are missing on the ground, and there's a footpath on the ground (in red) that doesn't match the right of way on the map (shown in green). The lower photo shows what the pattern of walls and fields may once have looked like



I said above that my views have changed little in 20 years, but they have changed slightly. I always carry my smartphone with me, which has a very accurate GPS function. When I'm running a course, there are times when I consult my phone to confirm to participants their exact location. I also run and cycle a lot and always record my route, whether on my phone, a GPS watch or a GPS receiver. When I've finished, I then spend time poring over the copious statistics these gadgets produce – how fast did I complete a certain section? Was this quicker than last time? To me, walking is different, though. I've never felt the need to compare walks: how fast I walked a section or whether I walked a particular route in a new personal best! Each to their own, of course, but do remember that technology often can and does fail. Collecting stats is one thing but relying on it to navigate safely is another. Common sense would suggest that fully equipping yourself with the traditional

skills is an essential, adding in technology if, and only if, it floats your boat!

Just one last thing before we get going. Map and compass skills are practical skills. Reading about them in a book is a good start but reinforcing them through a training course (see Appendix B) and plenty of practice on the hill is vital. Practise what you learn in this guide and when you find yourself having to navigate for real, you'll do so efficiently and with confidence.

Note This book uses examples drawn from the UK using maps available in Britain. However, the techniques and skills covered are applicable to navigation in other countries.



NAVIGATION

Walking is one of the UK's most popular hobbies, and effective navigation skills are essential if we are to fully enjoy our walking. This practical guide will help you acquire those skills.

You'll learn just how easy it is to use a map and your compass properly so you can enjoy the freedom of the hills with confidence and safety. That's if you practise... so the guide also includes exercises to ensure your navigation skills stay fresh and are ready to use when you need them most.



Pete Hawkins is a qualified mountain leader, freelance journalist and author of *Map and Compass* published by Cicerone. He has written about navigation for most outdoor magazines. He runs the Silva Navigation School from his Peak District home and is on the board of the National Navigation Award Scheme.

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