

NAVIGATION

Compass, Columbus' Guide Known Long Before His Time

Was Well Known to Writers Who Died Two Centuries
Before the Famous Trip Celebrated This Month.

COLUMBUS used a magnetic compass on his immortal voyage across the unknown Atlantic, and it has been widely assumed that this aid to navigation was a new invention in 1492. That it was an old and familiar device even then is attested by medieval records that have apparently been insufficiently studied in modern times.

References showing that mariners three centuries before Columbus' time used and understood the compass are cited by Prof. Walter J. Seeley, chairman of the department of electrical engineering at Duke University.

Alexander Neckam, who died in 1217, gives in his book *De Natura Rerum* the following unmistakable description of the magnetization and use of the compass needle:

"The sailors, moreover, as they sail over the sea, when in cloudy weather they can no longer profit by the light of the sun, or when the world is wrapped in the darkness of the shades of night, and they are ignorant to what part of the horizon the prow is directed, place the needle over the magnet, which is whirled round in a circle, until, when the motion ceases the point of it (the needle) looks to North."

In another of his works, Neckam described the compass as "a needle mounted on a dart," used by sailors in navigation.

Another twelfth-century writer who described the compass was William the Clerk, a poet-monk. A passage in one

of his poems, freely translated, reads:

"Who would of his course be sure,
When the clouds the sky obscure,
He an iron needle must
In the cork wood firmly thrust.
Lest the iron virtue lack
Rub it with the lodestone black,
In the cup with flowing brim,
Let the cork on water swim.
When at length the tremor ends,
Note the way the needle tends;
Though its place no eye can see—
There the pole star will be."

It is believed that neither Neckam nor William wrote of the compass as a new invention, but that it was something well known even in their time.

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Reference to Compass in 13th Century Poem

By NIKOLA TESLA

AMONG the oldest references to the mariner's compass is a passage in a poem by a little known French writer, Guyot de Provins, who wrote early in the thirteenth century. I first came upon this reference many years ago, during a period of omnivorous reading while I was convalescing from a nearly fatal attack of cholera morbus.

Among the many books I received there was a large volume of citations, gems of literature of all nations in a dozen languages, which aroused my special interest. Most of the excerpts from famous works, in verse or prose, collected by the author, impressed me so strongly by their beauty of thought and expression that even now I can recite many of them without a miss.

It was in this volume that I found the reference to the compass mentioned in the introduction. It was credited to Guyot de Provins, a French poet of the twelfth and thirteenth centuries, and, if my memory serves me well, worded as follows:

"Quand la mer est obscure et brune
Qu'on ne voit ni étoile ni lune

Donc font l'aiguille allumer,
Puis n'ont garde de s'égarer
Contre l'étoile va la pointe."

I translate it freely:

"When gloomy darkness hides the sea
And one no star and moon can see
They turn on the needle the light,
Then from the straying they have no
fright

For the needle points to the star."

As a rule, medieval records do not commend themselves for clarity; in fact, not a few are of very small value to the searcher. It is therefore remarkable that this ancient reference to the compass should be so strikingly clear and explicit.

After reading Guyot's verses one is impelled by the wish to know something more about him. With this intention I tried to obtain information from the New York Public Library but his name was not mentioned in any of the catalogues. I then made a thorough examination of the General Index, which was equally unsuccessful, but found a brief notice in the *Grande Encyclopédie Française*.

This item being of unusual interest I have made an English translation:

Guyot de Provins, French poet, towards 1200. Undoubtedly, after being a minstrel and going perhaps to Jerusalem, he became a Benedictine in Clairvaux and later in Cluny. He composed between 1203 and 1208, in a style lively and original, but harsh and hard, a satirical work consisting of 2691 octosyllabic verses, which he entitled "Bible," probably to indicate that he intended to say only what is true, and in which he passed in review almost the whole contemporary society. Especially noteworthy is his criticism of the Pope, expressed with great independence, and that of the high clergy and physicians, and a number of passages in which he argues that the compass was known in his time.

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