famous cartographer dates back to 1541, when he made a globe depicting an imaginary magnctic island north of Siberia. The caption "Magnetum Insula", as well as the representatiou itself he probably based upon earlier work by his Swedish colleague Olaus Magnus.[89] The phantom menacc to shipping did not seem to occupy a carefully ealeulated spot at a specifie location, but appears to have been merely plaeed in high northern latitudes. Six years later, in a lctter to his patron Antoine Perrenot de Granvelle, Mercator set out his thoughts on the matter more clearly. Not only did he explicitly put his confidence in a magnetic pole on Earth, but he also laid down his first attempt to determine its coordinates. Using thc method of cross-bearing detailed in §5.1, he found the intersection of the great circles of declination through Flushing on the Dutch coast (9° northeasting) and Gdansk in Poland (14° northeasting) to lie at a distance of about 11° from the geographical pole. Its longitude (168° E) he still rcckoned from the Canaries, following the tradition inaugurated by Ptolemy. This implied that Mercator's choice of prime meridian was at this time not yet burdened by geomagnetic concerns.[90]

In an instruction manual accompanying globes made for the Habsburg emperor Charles V in 1552, the author expressed very similar views, and added a reference to the determination of longitude by magnetie means. The impact of both writings will probably have bcen very limited; the text on the globes did uot receive wide distribution, and the lctter was only re-discovered in the 19th eentury. They do, however, serve to illustrate a continued devotion to the problem.[91]

By contrast, Mercator's 1569 world map, drawn on the famous projection, had a resounding impact. It is quite remarkablc in hiuging on two mutually-exclusive postulates, based on the choice of prime meridian. Dispensing with Ptolemy's graticnle, the baseline to reckon east and west from was now thought to be naturally disposed to coincidc with the Atlantic agonic (still presnmed to be meridional, resulting from a tilted dipole). Confusion arose after conflicting reports had emerged on observed zero declination in the vicinity of Corvo (Azores) and several of the Cape Verde islands. Rather than committing himself to a single interpretation that might prove to be wrong, the cartographer decided to calculate the intersections of each meridian (when extended through 180° E) with the grcat circle through Regensburg (Bavaria), where declination had recently been established to amount to 16°44' east of true north. This exercise (not surprisingly) yielded two prospeetive sites for the magnetic island, whieh were marked separately on the map. Mercatur scems to have had a slight preference for the Cape Verdes meridian, which possibly explains why the accompanying magnetic mountain was copied in the ensuing decades by the likes of cartographer Guillaume Postel (1581),

writer on navigation Michel Coignet (1581), Mereator's son Rumold (1587, 1595), and Dutch explorer and cartographer Willem Barents (1595).[92]
Given that the field was still considered time-invariant, it seems strange that Mercator did not ineorporate his previously-eompiled observations in his calculation to obtain a positional average. Perhaps the inconsistency of the two reported locations of the agonic meridian had appeared irreconcilable to him. Had he worked from the assumption that agonies (and isogonics in general) eould be eurved, none of the observations need necessarily have been in conflict, even if secular variation was ignored. But that would have meant giving up the pleasantly uncomplicated antipodal dipole system. It seems doubtful that the option was even considered at a time when the notion and consequences of a geomagnetic sonth pole had barely sunk in. Whilst Mercator's ideas may present a good example of a more mathematical approach and the novel discomfort caused by eonflicting data, its author was nevertheless still a member of the "old school", in implieitly adhering to the dipole concept while concentrating solely on the northern hemisphere. This limited focus was soon to be widened by others, aceompanied by a reappraisal of the physical manifestation of the perceived central point of attraction. As a result, new images of magnetic islands and mountains became very scarce in the seventeenth eentury. An isolated instance can be found in a book on precious stones by physician Anselme Boëce de Boot from 1609. It reported a sighting of a mountain at eolatitude 17°, 180° east of the Cape Verdes. In the French edition of 1644, the publisher had added the soothing note that the mountain did not constitute a danger to shipping, as its power was insufficient to tear vessels apart.[93]

Decades earlier, voices had already been raised rejeeting magnetie mountains and islands acting at great distances. Compass-maker Robert Norman (1581) cited it as one of the many fables written by those of ancient time, as did French cosmographer André Thevet five years later. William Gilbert (1600) expanded his criticism to inelude all longitude schemes based on

> *magnetic mountains or a eertain magnetic rock or a distant phantom pole of the world controlling the movement of the compass (...) For if it were correct, in different place on land and sea the variation point would in geometrical ratio change to east or to west,* whereas in reality *the arc of variation changes in different ways erratically.*[94]

Nathaniel Carpenter (1635), and Jesuit polymath Athanasius Kircher (1681) likewise discarded the idea. Thomas Browne, in his 1646 attempt to stamp out superstition and other erroneous beliefs, was particularly thorongh. He separately attacked the legend of the mountain in the Indian Ocean and in the Arctic (citing the absence of any visual evidenee of either), pointed out that the effects of crustal deviation were extremely loealised (using Elba as an