ADDRESS.

Mr. President, and Ladies and Gentlemen:

When De Soto discovered the Mississippi river, let us suppose he had remained on and about its borders for months and years-had traversed its width-had sounded its depths-had measured the velocity of its current-had recorded its temperature-had floated a thousand miles to the southward on its turbid bosom, and had still found, that, whilst its apparent volume continued the same and its temperature changed but slightly, its current became somewhat less rapid, but its course was still onward, towards the south, through the alluvial soil and interminable forests that formed its banks. Suppose now-just when his mind was absorbed in speculations as to the mission in the earth's economy this great "father of waters" was intended to fulfill, whither it went and where it ended-he should have been told that, only a couple of hundred miles beyond, the Gulf of Mexico spread its broad basin directly acress its path, and I think yon will agree with me, that it would have required no great effort of genius nor stretch of imagination to conclude that this was the reservoir into which the river poured its waters.

Now this is but a fair illustration of the sum and substance of the origin of the theory of the "Thermometric Gateways to the Pole and Surface Currents of the Ocean" that I had the honor of first submitting to this Society in the winter of 1868-9.

THE GULF STREAM,

In its general character, has been known for a century or more, and until 1855 it was supposed to be the only great "river in the ocean" that existed on the globe. But about that time it was my good fortune, in the course of my official duties, to discover and trace out another similar stream in the North Pacific, of even grander proportions than the Gulf Stream, and to deduce a system of inter-oceanic circulation between the Arctic Ocean and the Atlantic and Pacific, which is necessary to complete and harmonize the separate systems found to exist in these two latter oceans, and which were then, for the first time, discovered to be so completely alike.