

Linnæus having observed that the rue moves one of its stamina every day to the pistillum, he examined the *Ruta Chalepensis*, which differs very little from the common rue, and found many of the stamina in the position described by that great naturalist, holding their anthers over the stigma; while those which had not yet come to the stigma were lying back upon their petals, as well as those which, having performed their office, had returned to their original situation. These stamina are devoid of sensibility, being stout, conical

bodies, which cannot, without breaking, be forced out of their position. The same phenomena is observable in several other flowers; but in none more evident than in the rue. (But still, continues Dr. S. although some vegetables possess irritability, and others *spontaneous motion*, even in a degree superior to many animals, yet there still remains this difference, those properties have hitherto never been found combined in one and the same part, except in animals.

OF THE FLORIDA GULPH STREAM.

THE early navigators on the coasts of North America, were much perplexed with the appearance of so strong a current in these seas, of a considerable width, and which always deceived them more or less in the accounts of their reckoning. The cause, however, was soon ascertained, beyond all doubt, first, by Sir Walter Raleigh, and still more accurately by Admiral Drake, who explained this remarkable phenomenon of nature, entirely to the satisfaction of the old world. The bay of Mexico may be considered as a semi-circular basin of vast extent, receiving that immense accumulation of waters, which are necessarily driven towards it by the invariable trade winds blowing at all times of the year between E. S. E. and N. E. in the torrid zone, quite across the Atlantic; unless we except about one hundred leagues thereof, adjacent to the coast of Africa, from which limits the wind is naturally attracted by the violent heats and rarefaction of the air over the African deserts. Undoubtedly, were the countries about the isthmus of Darien removed by any convulsion of nature, there would be no such current in the neighbourhood of our coasts, as that at present known by the appellation of the gulph stream. A slow and equal current would then take place round the whole globe, in certain latitudes, viz. from latitude 23 south, to the same latitude north, occasioned not only by the strength of the eastern trade winds, but the constant motion of the earth, revolving on its axis from west to east.

The waters of the ocean being more or less heaped up in the gulph of Mexico, according to the greater or less strength of the trade winds, at different seasons of the year; the consequence is, to preserve that level, to which all bodies of water whatever have a natural tendency, a part of the

fluid thus forced into this basin, must find some way to escape. This purpose is, in common, effected by means of the gulph stream; sometimes, however, the vast tracts of shoals and islands about the Bahama latitudes, prevent nature from returning the waters in sufficient quantities, through those passages. In that case, the ocean, as I have frequently observed, seems to recoil upon itself, and begets what is called in the West Indies a strong windward current, setting to the eastward as far as the longitude of 56° or 57° , directly against the trade wind, and raising that short and disagreeable swell, so commonly observed in the latitude of 24° .

Besides the waters accumulated in the gulph by the strength of the trade winds blowing steadily over the surface of eleven hundred leagues of ocean, there are other considerations to be taken into view, to account for the prodigious strength of the stream.—There is a vast number of large rivers falling into the gulph, particularly the Mississippi, whose united waters meeting the strong current generally setting into the gulph from the eastward, considerably increase the effort of the waters, in pressing to the northeastward.

The following additional observations have been deduced from several years attention to the nature and properties of the gulph stream.

1. This stream is not always of the same width, after you get to the northward of the Bahama islands. In its progress to the northeastward, it has a tendency to spread wider and wider; but, in proportion to this expansion, the current becomes weaker. At a medium it is about 50 miles in width.

2. The only parts of the coast of the United States, that are touched by the strength of this current, are the south east