iridescent colours on the fractures. Under the microscope there can be seen in the dark-green transparent glass the skeletons or sharply-terminated individuals of olivine, augite, and plagioclase; there is little or no magnetite, but sometimes black or opaque concretions. The percentage of silica is on an average about 50, therefore much less than in the acid varieties. The following is an analysis of one of these deep-coloured specimens from a dredging in 1400 fathoms in the South Pacific. After having washed the fragment with oxalic acid, to take away traces of manganese which covered the specimen, and then repeatedly with boiling distilled water, to extract the sea-salts and to detach the mud adhering to it, the following results were obtained:—

Station.	Depth in Fathoms.	No.	H_2O	SiO_2	TiO_2	Al_2O_3	Fe_2O_3	FeO	MnO_2	CaO	MgO	K_2O	Na_2O	Total.
184	1400	79	1·70	50·56	0·80	10·30	4·95	7·59	0·14	9·35	9·27	1·24	2·81	98·71

On comparing the above results with those obtained by Cohen they present a perfect analogy, within the limits that may be expected for analyses of rocks of the same family, so that this specimen represents the basaltic lavas of Hawaii in its mineralogical composition, and the same may be said of all the dark-coloured specimens that have been dredged from the sea-bottom in the Pacific, and to a less extent in other oceans.

Minute fragments of the different varieties of pumice noted above can be detected in all marine deposits, and in some areas the greater part of a Red Clay, or of the residue of a calcareous ooze after removal of the carbonate of lime by dilute acid, may be made up of minute fragments and splinters of pumice. These microscopic fragments may be derived from the trituration of floating pumice, or from its disintegration on the sea-bottom, or, again, they may have been ejected as showers of ashes from subaerial or submarine eruptions, and have been widely distributed by aerial or marine currents.

In general, when mineral particles are reduced to infinitesimal dimensions, and are irregularly fractured, they lose their distinctive characters; the crystallographic form and the optic properties are no longer recognisable, but with vitreous pumice fragments the recognition of the particles is still possible when they are even less than 0·005 mm. in diameter. The most reliable diagnostic character of these pumice particles is to be found in their peculiar structure. The enormous numbers of vesicles in the pumice, due to the expansion of the dissolved gases in the original magma, present a special structure and characteristic fracture which can be recognised even in the minutest fragments. This property can easily be tested by pulverising a piece of pumice in an agate mortar, when it will be noticed on examination under the microscope that the minutest particles bear the impress of this vesicular or filamentous structure. The appearance arising from several pores being drawn out so as to be mere streaks, renders