

similar texture. Off Brighton Street (see Figure 1) the texture is generally finer, without cobbles, moreover, the texture at low water level is markedly finer than that at high water level. The substratum off Margate Street is almost the same as that off Brighton Street but at the southernmost locality of this series (Gooch's Beach off Number 240 The Esplanade) the substratum is of even finer texture. These samples demonstrate a progressive reduction in beach particle size from north to south along Ingles Bay and examination of Figures 3B, 4B and 5B shows that this trend, as with the trend of beach profile, continues across Gooch's Beach (in Transects C, B and A at levels 5.6ft and 1.1ft above datum).

The Margate Street and Brighton Street samples show that deposits are coarser at high water level than at low water level and this feature of beach texture is confirmed by the Gooch's Beach transects. This, then, is the second textural trend that is demonstrated. (The only anomaly to this trend is the situation off 240 The Esplanade, and this was probably an incidental effect of the great mat of flotsam on the beach at and above high water level there on that occasion.)

Frequent field notes comment on the lack of substratum homogeneity at any spot: e.g., the substrata off both 240 The Esplanade, and Margate Street were noted to be "many layered, the layers being either of granules or of very coarse sand, or of a mixture"; on 23.11.64 it was noted that at Transects A and B: "in general the top 2-4 inches is more sandy than lower depths, which are gravelly—the surface layers are yellow-brown, the lower layers dark-grey" (i.e., wet greywacke granules); and on 24.11.64 it was noted that "at Station C3 granules on the surface lie over sandy granules beneath". Such layering was clearly caused by different sea conditions and Gooch's Beach is more prone to variation in sea conditions than the more uniformly exposed, shingle beach north of it. Consideration of textural analyses must, therefore, be confined to the most outstanding features and there is no point in tabulating the Phi quartile deviation or skewness of each sample.

Transect C is complete from E.L.W.S. to the terrestrial plant line without curtailment by rock or soil. The substratum was sampled at nine stations and a most interesting pattern of texture is revealed (Figure 3B) showing a remarkably quasi symmetry about Station 5 which is the upper level of the more extreme spring tides (the lower level of which is about Station 10). The intertidal region is here dominated by very coarse sand except at E.H.W.S., which is dominated by granules, and at E.L.W.S., which is dominated by fine sand. Except for the lowest and highest stations the median grade is very coarse sand but there is nevertheless an increasing coarseness of texture up the beach to E.H.W.S. level. Above this level the beach is only affected by heavy surf (which presumably accounts for the upper distribution of granules and very coarse sand) and by wind (which presumably affects chiefly the finer particles). The analyses reveal a conspicuous lack of coarse and medium sands intertidally and show their progressive increase above E.H.W.S. level. It will be realised that a horizontal line bisecting Figure 3B passes through the median grades of the stations sampled.

Transect B has a lesser vertical range than C in that its lower end terminates at the exposed rocks of a reef and its upper end at a stony soil salting cliff above which bushes grow. Six stations were assayed for texture and the results are shown in Figure 4B. The two general trends of texture that have been remarked upon are here evident, viz., (i) it is finer than at Transect C, and (ii) it is finer at low water level than at high. Pebbles are mostly at H.W.S. level at which, as in Transect C, there is a conspicuous reduction in the amount of very coarse sand present. Coarse and medium sands show the same trends as at Transect C but are rather more noticeable here. Perhaps the chief feature of note is the abundant presence of very fine sand at and below M.S.L. which may be due to the influence of protecting