Table III presents the suggested correlations. The relationship between the Pouakai Group succession and glacial–interglacial periods follows Fleming (1953) and Suggate (1965). The 60ft terrace of south-west Auckland and the equivalent Waioneke Formation described from Kaipara by Brothers (1954), although not so far dated by ^{14}C, is taken to be definitely older than the interstadial transgression which culminated at a general level 30 to 50ft lower than present sea level (Curray, 1961; Cotton, 1962). The Wanganui correlative of the 60ft terrace that invokes the least amount of differential tectonic movement is with terraces of the Rapanui Formation (which is also older than the 30,000-year interstadial, as shown by ^{14}C age for Kaiwhara Alluvium being $>$ 45,000-year [Ferguson and Rafter, 1959], which is considered to be of Last Interglacial age by Fleming [1953]). Although Grant-Taylor (1964) infers a cool fluctuation between formation of the Ngarino cliff and the lower Rapanui cliff (both developed within the Rapanui Formation) these have been grouped together in the Oturi (last) Interglacial by Suggate (1965). The tentative correlation by Brothers (1954) of the Waioneke Formation and its associated 65ft and 35ft terraces with the Monastirian (last) Interglacial of Europe was made from a consideration of world-wide glacio-eustatic changes, and hence the correlation of the 60ft terrace with the Ngarino surface and the 35ft terrace with the Rapanui surface makes for a consistent although somewhat circumstantially-based pattern.

The marine regressions which followed the Parawai and Waiau A (= Shelley Beach Formation of Kaipara) transgressions are of a magnitude which invites correlation with major glacio-eustatic cycles and suggests that these are south-west Auckland equivalents of Kaiatea and Brunswick Formations of Wanganui. Grant-Taylor (1964) indicates that the Kaiatea is divisible into three parts, as is the Albion Formation of Westland, described by Suggate (1965), which can be correlated, in part at least, with the Kaiatea. Of the Albion Formation Suggate writes: "Detailed work is required to establish whether these three distinct levels (of the Albion) relate to a single interglacial period . . .", and it is the uncertainty centring around this part of the New Zealand mid-Pleistocene succession that makes unequivocal correlation of the Nihinihi impossible at this stage.

CONCLUSIONS

Marine deposition commenced in the south-west Auckland coastal region in Opoitian times. During the ensuing period there existed a stable juxtaposition of land and sea until Hautawan time, the onset of which was marked by a strong climatic deterioration and a fall of relative sea level of over 100ft. Basaltic vulcanism broke out at several centres, and in the early stages of the following submergence an oscillation of sea level occurred which had an amplitude of at least 65ft and appears to have been coeval with a similar event in the Hautawan in Wanganui. The coastal region submerged about 600ft during the Nukumaruan, and a consideration of ice volumes suggests that at least 300ft of this movement was not of glacio-eustatic origin, that is to say, total submergence (600ft) = 110ft (the relative sea level in Kaawa—non-glacial—times) + 200ft (the sea level change equivalent to an Antarctic icecap—cf. Donn *et al,* 1962—which is here assumed to have been no larger in pre-Pleistocene times than the present one and may have been smaller) + 300ft, not of glacio-eustatic origin.

Before the subsequent onset of cooler climate in Okehuan times (cf. Fleming, 1953) the Kaihu transgression had ceased, and during the course of the subsequent slow emergence of the south-west Auckland coastal area at least five major oscillations of sea level occurred before the present day. These oscillations, presumed to have been glacio-eustatic events, have their peaks represented in south-west Auckland by terrace surfaces which are thought to be correlatives of upwarped terraces in the Wanganui area.