93°24′W. Almost vertical, west-facing cliffs stand above the sea ice and form the shoreline of the island. The rock is cut by a large number of slickensided and grooved vertical slip planes and vertical cataclastic zones showing dip-slip movement. The slip planes and cataclastic zones strike north, parallel to the shoreline. This similar orientation suggests that the shoreline is fault controlled.

Rocks of two types were collected from the exposure in Paradise Harbor. The first of these is a medium-gray, medium-grained, sparsely mafic rock of dioritic composition that is not at all like the quartz diorite of the Eights Coast. The second type occurs as inclusions in the dioritic rock and is an odd, dark-gray, fine-grained to fine-medium-grained rock that is composed principally of calcic plagioclase—either calcic andesine or laboradorite. Epidote, sparse masses of chlorite, and magnetite-ilmenite are the only other minerals identified as yet. This rock may be an old andesite or crystal tuff, although it does not resemble Adie's descriptions of such rocks (*2*). A University of Wisconsin geological party did considerable work in this area last austral summer and will undoubtedly present much more geologic data (*3*).

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Histochemical Distribution of Acid Phosphatase in Healing Wounds

Abstract. When wounds are inflicted in the palate, tongue and skin of Wistar rats and guinea pigs, acid phospatase activity in proliferating epithelium of these wounds is markedly decreased from that in normal epithelium; the enzyme reappears as soon as keratinization is evident. In connective tissue the enzyme is found especially in foreign body giant cells and in histiocytes in macrophagic function.

The histochemical distribution of acid phosphatase has been studied in wounds of the palate, tongue, and dorsal skin of 30 Wistar rats and 50 guinea pigs. The wounds were inflicted in such a way as to produce a loss of substance of convenient size, and the animals were killed after 3 days and 1, 2, and 3 weeks. The area of the wound, including a wide margin of normal tissue, was removed.

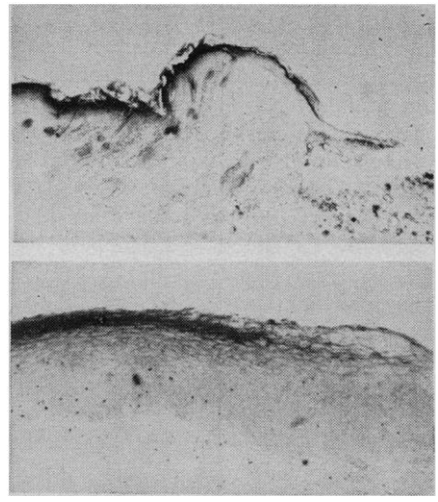

Fig. 1. (Top) Survey view of a 7-day-old wound in skin of guinea pig. Note the marked reduction in enzymic activity in the margins of the proliferated epithelium. Rutenburg and Seligman technique; incubation time 2 hours (about × 13). (Bottom) Part of margin of 7-day-old wound in guinea pig tongue. Note the abrupt decrease in the response of the upper epithelial layer. Rutenburg and Seligman technique (about × 60).

The demonstration of acid phosphatase was done with the methods of Burton (*1*), Gomori (*2*), and Rutenburg and Seligman (*3*) on unfixed sections and on sections fixed in formalin–chloral hydrate (*4*). Different incubation times ranging from 10 minutes to 24 hours were used. The most demonstrative slides were obtained after 1 to 3 hours of incubation. Similar results were obtained with the three techniques, but the two last mentioned produced better responses.

The epithelium of skin and oral mucosae of the rat show an intense reaction in the subcorneal layers and another less intense reaction in the basal cell layers; the latter reaction is especially evident in oral mucosa (*5*).

Similar histochemical behavior occurs in skin wounds and in wounds of the oral mucous membrane. During all the healing process and until epithelialization is complete, the epithelial margin of the wound shows a marked reduction in acid phosphatase activity with loss of the characteristic enzyme pattern, giving a weak diffuse reaction (Fig. 1). The same reduction in enzymic activity is seen in occasional acanthotic epithelium close to infected wounds.

Acid phosphatase appears in the superficial layers of proliferated epithelium as soon as histologic evidence of keratinization is detected.

Healing connective tissue contains isolated, intensely positive cells which are probably histiocytes in macrophagic function. Newly formed fibroblasts give a moderately positive reaction which is stronger than that of fibrocytes in normal corium. The fibrous tissue which occupies the area of the wound is also slightly positive, while normal connective tissue is almost negative. Foreign body giant cells occasionally found in wounds are strongly positive.

These results indicate that acid phosphatase is related to keratinization and not to epithelial proliferation. In connective tissue, acid phosphatase appears to be associated with macrophagic function and not with tissue formation (*6*).

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Excessive Irrigation and the Soils and Ground Water of Oahu, Hawaii

Abstract. In the cultivation of sugar cane in Hawaii irrigation water is applied at very high rates. More than half of this water returns to the basalt aquifer by infiltrating through the highly permeable lateritic soils. The excessive rate of irrigation alters the composition of the ground water and accelerates the evolution of the low humic latosols to humic latosols.

About 30 square miles of the south central portion of the island of Oahu, Hawaii, is devoted to the cultivation of sugar cane, all of which is heavily irrigated. Of the total crop area, nearly 23 square miles directly overlies the basalt aquifer and is thus tributary to it;