districts. There are various species of buyo leaves used, some employed in their fresh, green state, while others are bleached. In Formosa, buyo leaves are replaced by leaves from a local vine. In some parts of India lime prepared from shells is used, while in other regions the lime is made from limestone, which is said to be less irritating than the lime from the shells. Fresh green betel nuts are used in some districts of India, while the dried fruits are employed in others.

These differences seem to have a definite relation to the marked variations in the incidence of betel cancer found in different localities (Snijders and Straub; Orr; Spittel; Maxwell; Degore; Montel; Van Dort; and Davis). The incidence of betel cancer is low in Formosa, Guam, and the Dutch East Indies, where betel chewing is common; but this neoplasm is found frequently in certain districts in India (Madras, Malabar Coast and Travancore), Ceylon, and Philippine Islands. Some investigators attribute the local divergences in frequency of betel cancer to the use of different types of lime (Orr). The lime is not the main cause, as coca chewers of the Andean highlands also add lime to the coca leaves without contracting buccal carcinoma (Eggers). Other investigators attach some importance to the use of green betel nuts, as the cancer rate is high in regions where the fresh nuts are used.

It is possible that these variations in cancer incidence are not related to any differences in the composition of the quids, but are due to discrepancies in habits (Orr). This investigator found, upon an analysis of numerous data, that people in regions with a high betel cancer rate kept the quids in their mouths many hours at a time for economic reasons, thus establishing a prolonged contact of the oral mucosa with an irritative agent. In districts with a low betel cancer incidence the population is on a higher level economically, and quids are renewed at more frequent intervals. While the primary or principal cause of betel cancer is still unknown, no doubt exists as to the carcinogenic significance of the habit, despite the fact that only a small percentage of the large number of betel chewers develop ultimately a carcinoma of the buccal cavity. Approximately 90 per cent of the elderly individuals of the Philippine Islands are betel chewers.

The causal significance of this habit in the production of oral cancer is indicated by the fact that carcinomas of this site represent an appreciable portion of the total number of malignancies. Fells found in Southern India that 91.5 per cent of all cancers observed (377 cases) were buccal carcinomas. Snijders and Straub noted, among a collected series of 1,700 carcinomas of all sites, 653 cases of oral cancers (38 per cent) in Travancore, while the percentage of oral tumors was 42.1 in Madras (411 out of 976 cancers of all sites), and 32 in Ceylon (422 out of a total of 1,325 cases). Bentnall stated that in southern India, 34.9 per cent of all cancers were located in the oral cavity. The exogenous causation of this cancer occurs at a much earlier age than oral carcinoma is usually seen. Bentnall asserted that betel carcinoma occurs at an age averag-