suited to resist the change and the podocarp stocking of subsequent crops would be higher (scattered Hall's totara associations). At lower altitudes the podocarp advance growth would be affected but to a lesser degree. Here would develop the scattered podocarp associations with kamahi, maire, hinau, tawa, rewarewa, Quintinia, and scrub hardwood associates. Climatic change would have an accelerating effect on the west to east invasion by these hardwood species; with the decreasing aggressiveness of the podocarps they would become established with greater facility. It has been pointed out in section 9 that study of hardwood diameter sizes indicated a rapid and recent hardwood invasion. On sites that were inimical to hardwoods, dry ridges and knolls, shallow water-washed slow-draining pumice soils and areas not yet colonised by forest, dense mixed podocarp forest would be established or re-established. Scrub hardwoods and treeferns are mainly responsible for the inhibition of podocarp advance growth. This explains the concentration of podocarps and podocarp advance growth on narrow ridges in dissected country. It is significant that on these sites scrub hardwoods and treeferns are absent or less dense. As the climatic change progressed species migrated to lower altitudes. The frequent occurrence of Hall's totara at lower altitudes, often forming dense stands, can be explained in this way. More recently mountain toatoa “migrated downhill” and a narrow ecotone fringe of this species at the eastern bush edge replaced the “blanket” colonising of rimu, totara, hakikatea and matai. Around many swampy clearings that are now being drained a narrow belt of pole mountain toatoa passes abruptly into dense to medium diameter Hall's totara with no evidence of the Phyllocladus association changing to dense Hall's totara, indicative of colonisation under different climatic conditions. Probably the static and relict condition of rata can too be ascribed to climatic change.

12. CONCLUSION

The present distribution of West Taupo forest associations appears to be the product of post eruption colonisation modified latterly by regional climatic change. This account of forest development is conjectural, all that can be said of it is that it fits the observed facts fairly well. Possibly other ecological mechanisms could produce the observed end product. What is required is more investigation conjecture and criticism and also investigation in other Central North Island forests. Future forest management and land utilisation in the forested areas of the Central North Island must take cognizance of present major ecological trends.

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14. SUMMARY

A general descriptive account is given of West Taupo forest associations. Their zonal distribution is ascribed to colonisation of areas devastated by recent volcanicity. Anomalies are discussed and it is pointed out that they can be explained only in terms of Mr. J. T. Holloway's postulate of regional climatic change affecting forest stability.

15. REFERENCES


4. Holloway, J. T., unpublished manuscript.

REVIEWS

PLANNING AND CONTROL IN THE MANAGED FOREST—By Herman Knuchel, Zurich, Switzerland. Translated by Mark L. Anderson. Published by Oliver & Boyd, Edinburgh. Pages 360, 7 photographs. English edition 1953: 35/–.

This admirable book is in fact a comprehensive course in Forest Management, being actually based on lectures delivered by the author to the Forestry students attending the National Technical High School, Zurich.

The basic principles of silviculture and management are dealt with in the early chapters of the book, but most of the space is devoted to their application to mixed selection forest in Europe in general and Switzerland in particular.