

Joaquín Balaguer, has been overwhelmingly elected as president, in opposition to the hero of the "proletariat," Juan Bosch. One wonders how Franco will explain this in terms of the class struggle, now that the people have made a clear choice.

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Highways into the Upper Amazon Basin. Pioneer Lands in Southern Colombia, Ecuador, and Northern Peru. By EDMUND EDWARD HEGEN. Gainesville, 1966. University of Florida Press. Illustrations. Maps. Tables. Bibliography. Index. Pp. 168. Paper. \$3.75.

The author of this study is a product of the German University of Prague, with a Ph.D. from the University of Florida, and he is at present Assistant Professor of Geography at that institution. In 1960 he crisscrossed the Upper Amazon Basin on foot, muleback, and motorcycle and by boat during six months of field work. The purpose of this survey was threefold: to recount past attempts to penetrate into the area; to investigate the present processes of migration; and to establish as nearly as possible the potential and the prerequisites for future successful pioneering. He chose six routes for consideration—two each in Colombia, Ecuador, and Peru, all of them true roads of penetration and all planned to reach navigable waters.

The Upper Amazon Basin is relatively unstudied and unknown; it is, according to Hegen, "East of the Andes, and West of Nowhere" (p. 5). (This does not preclude a ten-page multilingual bibliography.) In the words of Isaiah Bowman, it is a priceless laboratory for the study of cause and effect, with a minimum of city influence. Here in the Basin, experiment upon experiment is already under way: highway construction in rain-forest country, settlement in the humid lowlands, transformation of forest into man-made tropical savannas, cattle raising; and, in the offing, fertilization of tropical lowland soil with volcanic material brought down from the Andes in pipelines, and road tops made from chemical products derived from the forest.

Hegen predicts categorically that the agricultural potential of the Basin will be utilized. Bowman has questioned if the pioneer fringe as a population outlet justifies outlay of capital, and Preston James has also inquired whether pioneering is an outdated solution which only increases the number of subsistence farmers. To these questions Hegen answers that modern pioneering or scientific colonization, supported by all technical, economic, and sociocultural knowledge, will provide the subsistence farmer and landless agricultural worker for the first time with a truly free choice. He may either accept the chal-

lence of the land and become a surplus-producing, market-oriented farmer or go to the cities, acquire non-agricultural skills, and then become a part of the industrial force of his nation. Should the new settler make the second choice, the pioneer effort will not have been in vain, for it will enable him to move from a solid material base, from property which is salable or which can be kept as a foothold or a retreat. Regardless of the pioneer's choice, initial land ownership will enable him to accumulate capital or, as it were, get his foot in the door to prosperity.

According to Hegen, one cannot overlook the implications of modern pioneering for land reform and socioeconomic changes. If pioneering pushes the consolidated cultural frontier ahead of it, instead of jumping into isolation and leaving it behind, the movement enlarges the spatial and economic effectiveness of nations. It increases the number of productively engaged people, creates wealth, and makes possible capital accumulation by those who were almost completely outside national economies before they owned land. Modern pioneering creates sociocultural demands and establishes a tax source which in turn will supply funds to satisfy these demands. It stimulates the establishment and growth of trade, manufacturing and service industries, and the general exchange of goods based upon a money economy. It leads to regional specialization, fulfilling thereby the requirements of the demand-supply complex. Above all, "pioneering will revolutionize the static social and political life of the people by integrating them into the responsible, decision-making processes of a modern democracy" (p. 37).

Much of this discussion is contained within the Introduction, a chapter on The Cultural Frontier, and the Conclusion. Other chapters relate to Travel and Transportation, Man and the Physical Milieu, Roads to the Rivers, Roads to New Regions. Amid statistics and information of geographical significance are scattered items of historical and human interest. There are accounts of early travels through the forests and along the rivers of the Upper Amazon Basin, most of them records of disaster. Five case studies relating to pioneer settlers offer Horatio Alger stories of success, reducing the abstractions of early chapters to terms of human experience.

To one who usually approaches geographical studies with little enthusiasm this is an impressive volume. Here is refreshing first-hand testimony about large-scale development, offered by a trained, conscientious observer with imagination and breadth of perspective.

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