

## Heritage and Modernity

**Contemporary Change in Traditional Societies.** JULIAN H. STEWARD, Ed. Vol. 1, Introduction and African Tribes (533 pp., illus. \$12.50). Vol. 2, Asian Rural Societies (362 pp., illus. \$10). Vol. 3, Mexican and Peruvian Communities (316 pp., illus. \$10). University of Illinois Press, Urbana, 1967.

These three volumes edited by Julian H. Steward assemble the results of work carried on under the Studies of Cultural Regularities Project based at the University of Illinois. They consist essentially of the finished reports of the ten workers who carried out the field studies sponsored by the project during the late '50's and early '60's. The theoretical basis and implications of these studies are to be discussed in a revised version of Steward's *Theory of Culture Change*. At present, the theoretical part of the study is limited to an introduction, written by Steward. The decision not to include a broader theoretical statement with the field reports seems unfortunate, since it forces the reader to peruse the individual studies without much theoretical aid from the project organizer. The introduction does, however, set forth the ways in which Steward differs fundamentally from others now writing on the subject of modernization. First, he does not use "traditional society" as a blanket term for all societies that are not modern, a usage implicit—for instance—in the works of Gabriel Almond, James Coleman, David Lerner, and Walt Rostow. "Traditional society" is for him merely a base line for the study of relevant changes, "the background of the society that was traditional prior to the penetration of modernizing factors." This approach may entail its own difficulties, since it takes its departure from the description of the set characteristics of a given society, rather than from a model representing the particular dynamics underlying these characteristics. The use of a base line, in other words, somewhat mechanically takes society as a given, rather than

as a problem. Yet it does have the great virtue of accentuating the enormous heterogeneity in starting points and in preconditions which is obliterated in the more abstract approaches of nonanthropologists. Political scientists, sociologists, and economists seem to have taken to the concept of "traditional society" much as they earlier took to the concept of the folk society, largely because it allows them to substitute a generalized conceptual model for the heterogeneous reality from which it was constructed. Unfortunately, reality is frequently more protean than is allowed for in the conceptual apparatus.

Closely related to Steward's use of "traditional society" as a heuristic artifice of the investigator is his insistence on the investigation of cases in which modernizing tendencies have been at work. His aim is to account for "the specific alterations of particular societies." These, he says, "may or may not be cross-culturally similar." Whereas many investigators assume that modernization is everywhere producing the same homogeneous type from a heterogeneous reality, Steward argues that "special combinations of processes of cultural change together with differences in the cultural heritages and in local environmental and social adaptations will perpetuate a varied cultural topography." He is greatly interested in convergences and parallelisms, worldwide or between particular societies or subsystems of societies; the intent is nomothetic. The thrust of his presentation, however—and of those of the contributors to these volumes—is toward the idiographic, toward giving adequate explanations of particular cases before making a model to stand for them. Here Steward and his collaborators are working within an anthropological tradition which cleaves to the notion that macroscopic changes are not automatically duplicated in microscopic changes of the same kind. "A major task," writes Steward, "is to assess the significance of the heritage

of cultural areas so that cross-cultural operations of similar modernizing factors within different settings can be recognized."

The choice of cases to be presented in these volumes was made with "two very crude categories" in mind. The studies deal, first of all, with native tribal societies; they then proceed to investigate the rural segments of states. The tribal societies include the Kayah of Burma, the Anaguta of Nigeria, the Kipsigis of Kenya, the Kaguru of Tanzania, and the Yaquis and the Mayo of Mexico. The rural segments of states studied comprise rubber-growers in Malaya, peasants in Japan, and workers on large estates on the coast and in the highlands of Peru. The volumes themselves, however, are organized on a geographical basis. Volume 1 deals with African tribes; volume 2 discusses rural societies in Asia; volume 3 presents findings on Mexican and Peruvian communities.

### A Stable, a Changed, and a Dying Tribe

Edward H. Winter and T. O. Beidelman open volume 1 with a discussion of the Kaguru of mountainous east central Tanganyika, the largest of the tribes in Kilosa district. They first trace the operations of colonial institutions established by the British after their seizure of the territory following World War I. Especially interesting is the discussion of the rationale for indirect rule. Winter and Beidelman then trace the working out of these institutions on the local level. The Kaguru do not work as laborers on the foreign-owned sisal estates established on land too dry for African farming, but grow maize for sale to feed the estate laborers or to sell to Asian Indian traders whose commercial network is fortified through widely ramifying ties of kinship and friendship. Land is not a commodity, but is held by locally dominant clans and allocated to individuals by the local clan leader. Affiliation with local clan groups and good relations with clan members thus remain important, since they are necessary for access to land. The same is true of relations within the local matrilineages: the Kaguru continue to rely on them for aid in raising bride wealth and emergency funds, as well as in legal cases. These structural alignments tend to counteract tendencies toward greater independence on the part of individual nuclear families. The authors conclude that "what is striking is that no fundamentally new types of social

relationships have come into being as a direct result of the new use made of the agricultural potential of the region."

Winter and Beidelman also furnish an unusually detailed account of the impact of missionary activity on the local scene. The mission employs some 100 Africans, who see in the combination of Christian beliefs and rituals with European material traits and behavior "the chief recipe for their entrance into modern life." Adoption of this complex of traits, however, has also entailed for them pronounced alienation from the mass of the people, with whom they have but little in common.

Next, Robert A. Manners discusses the Kipsigis, sometimes labeled the "show tribe" of Kenya for the speed with which they have adopted important social and cultural changes. Once livestock keepers who also carried on a measure of cultivation, the 200,000 Kipsigis today grow maize with the aid of steel plows and increasingly make use of improved strains of cattle. The maize is sold to Indian traders and to the tea estates that thrive on nearby land. Much of this land was originally alienated from the Kipsigis; this makes the Kipsigis' situation quite different from that of the Kaguru. Unlike the Kaguru, the Kipsigis are also developing individual permanent claims to land, and increasingly they are migrating to the estates as agricultural laborers. Like the Kaguru, they lacked any kind of centralized authority, though war leaders emerged in emergency situations. The traditional local groups (*kokwet*), the patrilineal clans, the phratries of clans, and the age-sets survive in form but are subject to pressures which change their functions. The individual nuclear family is coming to the fore; at the same time clans and phratries are taking on the function of political clubs in a setting of competition and conflict with other tribes which are mediated primarily on the political level through the formation of indigenous political parties. In an unusually descriptive passage Manners portrays the impact of culture change on the customary beer-drinking parties, where the status rivalry of heads of families yields to interaction of young men whose concern is with the future rather than with the past.

The third contribution to the African volume deals with the Anaguta, a population of 2500 located in the

Nigerian Middle Belt, where tin-mining is carried on under the aegis of resident European managers. Stanley Diamond, who studied the Anaguta, furnishes an excellent discussion of the origins and development of this pattern of exploitation, which differs markedly from that established on the coast and in the interior. The coast was managed through a system of "colonial remote control," whereas northern Nigeria operated under a system of indirect rule, in the hands of the Fulani emirs. Only the Middle Belt was subjected to direct European intervention. The Anaguta themselves, however, do not work for Europeans. They represent a declining people whose ceremonial institutions are slowly falling into disuse and whose cultural identity cannot maintain itself on the basis of "an ontology of the junkyard" transmitted to them by the colonizers. Unlike the neighboring Afusare, who are becoming patriarchal peasants, selling cash crops to European and African markets, among the Anaguta it is the women who acquire a little ready cash through the occasional sale of firewood and vegetables. The traditional patricians are becoming obsolete; instead, there is a growth of unstable matrifocal families. Diamond concludes that the Anaguta will shortly "cease to exist historically; their culture is coming to a stop; nothing is emerging out of it; it is not mingling with the dynamic, multi-faceted fabric which is, hopefully, expanding into a polity called Nigeria."

#### Five Studies in Asia

The Kayah of Burma, reported on by Frederic Lehman in the first contribution to the Asian volume, represent a society quite unaffected by modernization, though it has for centuries been in contact with the neighboring civilization of Burma. British rule did of course penetrate the Burmese lowlands, but found little need to extend itself into the southeastern periphery. Here local chiefs manage a trade in teak and minerals with the lowlands and use a combination of trade policies and warfare to build up more or less permanent statelets. They use Burmese symbols to fortify their position at home and to operate within the political sphere of the Burmese sovereignty. Essentially they are "private entrepreneurs who had in one way or another learned to manipulate some social and economic techniques proper to neighboring civilized societies." Leh-

man speaks of this as a strategy based on "an ineluctable premise of these societies that one changes one's social structure, sometimes even one's 'ethnic' identity, in response to periodic changes in ongoing political relations with neighboring civilizations. Such changes are entailed by the continuing attempt to find a strategic way of manipulating these relations to advantage."

Richard Downs, on the other hand, deals with a population strongly linked to the outside world through the production of rubber. Rubber was introduced around the beginning of the century, but the trade received a great impetus from the Korean war. Kampong Jeram, in the district of Pasir Puteh, is inhabited mainly by Malays. The rubber trade, however, is monopolized by Chinese. Rubber is produced both on large estates and on small holdings; Downs focuses primarily on the peasant rubber producer, who needs little capital to tap the continuously producing trees. Most of the peasant producers work as sharecroppers; some wet rice, most of which is consumed in the community, is also grown under a sharecropping arrangement. Kinship organization is bilateral; ancestors beyond the grandparental generation are not recalled. This contrasts with studies of noble families in western Malaya, who paid great attention to the niceties of agnatic descent. Kinship ties ramify within the village, but also extend far beyond it, thus making possible all kinds of contacts in the wider world, created and stabilized by the Pax Britannica. At the same time, formal political relations with the larger state are tenuous. There are informal local leaders, but their authority has been curtailed by the fact that everyone now pays a land tax directly to the District Land Office instead of being subject to local tax collection and *corvées*. Noble titles no longer carry with them personal prerogatives. The village has been integrated into the world market, but "the vertical link which existed between the village population and the central authority was broken, and as a result the villagers came to regulate their own affairs as far as possible independent of the government."

The final studies included in volume 2 comprise two reports on Japanese villages, and a brief comparison between them written by Toshino Yoneyama. The first village, Kamino-sho, located in the Nara Basin of south

central Japan, has long been in touch with urban centers. Under modern conditions, it can be reached in one or two hours from Osaka or Kyoto. Its productive lands can grow more than one crop a year; rice and vegetables are produced for the urban market. More than half of all households earn income from nonagricultural pursuits. Kurikoma, on the other hand, located in the Tohoku District of north central Japan, is about five hours by bus or train from Sendai, Tohoku's biggest city. The population grows one crop of rice and exploits the local forests for charcoal burning. Ecologically different, these two communities have been subjected since the Meiji Restoration to the same impact of political centralization, with its unified controls over taxation, education, religion, recreation, and military affairs. Because of its remoteness, Kurikoma has lagged behind Kaminosho in the introduction of new techniques and items of material culture as well as in social change. What is striking about both villages, however, is the continuing importance of the extended patrilocal family and the community. Primogeniture, formally abolished after World War II, continues to link family and land over generations, though younger siblings are now compensated if they relinquish their claims. Thus although younger sons and daughters may depart for the cities and become urbanized, the traditional rural family tends to remain strong and intact. This is also true of the rural community, which maintains numerous associations that are compulsory either by law or by local custom. Thus family remains tied to community and community to nation in a hierarchy within which the various levels reinforce each other, a pattern which certainly aided modernization "from the top." Notable, of course, is the fact that Japan produced its own autonomous modernizing elite, so that "Western things" have been filtered through and modified by an indigenous urban society and strong national institutions.

#### **Society and Land Use in Latin America**

In "Culture change in northwest Mexico," the first study of volume 3, Charles Erasmus traces the effects of modernization on the desert region of the northwest Mexican coastal plain, where populations cluster near the rivers which furnish the water supply needed for irrigation. One of these populations, the Yaquis, strongly re-

sists social and cultural change. The Yaquis maintain communal jurisdiction over their lands; only membership in the tribe qualifies for admittance to land use. Authority is wielded by a tribal organization comprising eight governing bodies, each with its own hierarchy of officials. A viable ceremonial system works "to maintain their social identity and simultaneously provide opportunities for members of the group to gain social recognition." The second group investigated, the inhabitants of the Mayo Indian Reserve of Masiaca, consisting of both Mayo and Mexicans, lack both the political and religious system of the Yaquis, but many rely on the undeveloped virgin thorn forest they inhabit as a refuge from dependence on Mexican outsiders. With a decreasing market for forest products, however, many are also forced into wage labor. Slowly their contact with the outside world serves to "broaden the scope of their reference group with respect to status seeking." The third group studied are the Mayo of the Mayo River, who grow cash crops and perform wage labor within a rapidly expanding cash economy. Much of the land is held in *ejidos*, or supposedly inalienable communal lands, but land rental and sharecropping—in contravention of federal law—increases the circulation of land and result in larger, consolidated farming units, most of which are managed by Mexicans rather than by Indians. Involvement in the market selects for individuals who are aggressive and eager to seek contacts with important people in the local hierarchy. Most Indians, however, are unable to cope with these new demands. Erasmus draws on ethological and small-group studies to suggest that prolonged dependence in which parents pass their low expectations on to their children also leads to the feeling that one does not control the circumstances of one's life and that achievement is more due to luck than to one's own capacity. He also suggests that small-group studies can be used to measure the gains and costs involved in the acceptance or rejection of change.

In "Hacienda and plantation in northern Peru" Solomon Miller points to characteristics which distinguish the Peruvian estates from similar organizations found in Middle America and the Antilles. Peruvian haciendas were not self-determining systems, but could be leased to companies engaged in mining or plantation agriculture interested in

using tenant labor and food surpluses to supply the parent enterprise. Miller shows how this system worked in the case of Ganadabamba, a hacienda near the highland town of Huamachuco. Leased to a mining company, the hacienda was administered to raise food supplies for the mines. At the same time, the tenants—tenants and subtenants of tenants—continued their own communal life, organized around the pivot of the fiesta system. In the 1930's, the hacienda was sold to a corporation whose sole purpose lay in channeling tenant labor into coastal plantations and in using available hacienda lands to produce cattle and dairy products for the national market. The Indian village, which occupied potential cattle range, was destroyed, and with its destruction came the disintegration of Indian communal life. The new administration also disrupted traditional Indian land-use rights and allocated resources in terms of rational profit-seeking. Increased profits for the enterprise were gained at the expense of Indian security and opportunities. "The only alternative of economic destitution in the sierra is for the Indians to emigrate to the coast."

The coastal plantations also differed from Middle American and Antillean cases in maintaining personalized perquisites for their labor force, rather than relying on the impersonal forces of population pressure to drive would-be workers into the cane fields. They extended credit, housing, and subsistence plots to workers in order to bind them to their places of work. Miller believes that this policy was due to the need for a permanent and stable labor force in a setting where cane could be harvested for ten months of the year, in sharp contrast to other areas of Latin America where a short harvest season could be managed with seasonal and migratory labor. By the 1950's, however, immigration of Indians to the coast had increased the ratio of workers to available jobs and lessened the need for traditional binding mechanisms. At the same time, unionization had begun to drive up wages, thus setting in motion increased mechanization to replace human hands. There is a growing proletariat, focused around a new group of skilled laborers drawn from the more ambitious young coastal-born Indians. However, the rationalization of profit-seeking in the highlands and the increased mechanization along the coast are depriving many Indians of employment possibilities al-

together. "Unless substantial steps are taken to resolve this problem," says Miller, "the political situation in Peru is likely to become explosive."

In the final contribution to the series, Louis Faron traces more than 400 years of agricultural production and local organization in the coastal valley of the Chancay River, located in the Department of Lima. Here the present century witnessed a shift to cotton agriculture. Absentee landlords first leased their lands to Japanese management companies, which tended to farm the holdings with Japanese sharecroppers. Sharecropping arrangements, however, were based on traditional Peruvian patterns. World War II resulted in the expulsion of the Japanese from positions of economic dominance. The hacienda owners recovered direct control of their lands, now striving to farm them with modern machinery and wage labor. Within the shadow of the haciendas exist viable Indian villages whose inhabitants work on the haciendas but also grow cotton of their own, producing more cotton on less land and at lower cost than the haciendas. There are also homestead colonies which must compete with the haciendas for available supplies of water. The Chancay valley thus demonstrates how a traditional system of relationships, embodied in the organizational form of the hacienda, can be geared to the requirements of modernization, perpetuated here "by the weight of tradition and the limitation of alternatives."

#### An End in Need of Definition

These studies provide no easy common denominator. In fact, if they exhibit certain convergences, such as the widening encroachment of the market and the growing use of money and credit, they also seem to indicate that such convergence produces profound divergences, as local factors are made use of in an ever-widening specialization and hence an ever-growing worldwide division of labor. Convergence and divergence seem to go hand in hand. Moreover, it seems to me inherently unlikely that the concept of "modernization" is at all adequate to the intellectual task entrusted to it. It is an essentially quantitative concept, denoting growing magnitudes in the use of energy, of organization, of communication. It may be possible to say, with Steward (in volume 1), that increase in these magnitudes finally results in a state in which "basic structures and

patterns are qualitatively altered." The concept, however, does not in and of itself allow us to specify the "criterion complex" which marks the watershed between previously existing societies and modern ones. It merely allows us to speak of "less modern" or "more modern," without yet saying anything about the defining qualitative attributes of modernity that we could recognize as the hallmarks of an evolutionary transformation.

Finally, there remains the unpleasant ethical question of "modernization for what?" Steward explicitly states that the use of the term by his collaborators and himself entails no overtones of progress or regression: "The term is neutral." Nevertheless, these studies produced in this reviewer a profound sense of anguish about a world in which social and cultural arrangements are initiated and carried through with so little concern for attendant human costs. Modernization is not only growth along stipulated quantitative dimensions; all too often it is also a veritable slaughter of the innocent.

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### Results of Collision

**Introduction to the Quantum Theory of Scattering.** LEONARD S. RODBERG and R. M. THALER. Academic Press, New York, 1967. 412 pp., illus. \$11.50.

Most of our knowledge of the properties of the fundamental particles that compose matter, and of their interactions, is based ultimately on the results of collision experiments. It is therefore natural that scattering theory, which connects the equations of motion with the description of such experiments, should play an ever-increasing part in the education of graduate students of physics. The appearance of half a dozen books on this general subject during the last few years is an expression of this development.

Of the presently existing books on quantum scattering theory, the one under review is the most elementary. Such a book has a very useful purpose for beginning graduate students and nonspecialists, particularly when, as this one is, it is written in a readable manner. The parts I think are especially good are the discussions of the effective-range theory of low-energy scattering, of charge-exchange scattering,

and of the distorted-wave and impulse approximations, and the chapters on Green's functions, on invariance principles and conservation laws, and on angular momentum.

On the other hand, the book contains a larger number of nontrivial errors than it should. I will mention here only a few examples. On page 161 the authors use Cauchy's theorem to evaluate a contour integral even though the integrand contains the absolute magnitude of the variable, a nonanalytic function. On page 138 one finds the statement that "the Schrodinger equation is not soluble at all if  $V(r)$  is more singular than  $r^{-1}$  [at the origin]." This is of course quite untrue. On page 180 an expression is given for the Møller wave operator that is incorrect, the authors' defense of it notwithstanding. This expression is used on several subsequent occasions. The origin of the trouble here is that the authors do not distinguish between operators and their matrix representations, a failure that is evident also in other parts of the book (as on page 235) and that can be badly misleading to the student.

Finally I should mention the absence of references. In the preface the authors write, "Because the treatment is self-contained and highly personal, we have not attempted to refer to the published origins of many of the ideas." That is regrettable. On this level it may not be necessary to give references for historical reasons, but surely it would be useful to the student to have some guide nearer at hand than the two general books to which the authors refer him to tell him where to go for more detail and depth. In sum, this book can be recommended only with great reservations.

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### Optical Modulators

**Reticles in Electro-Optical Devices.** LUCIEN M. BIBERMAN. Pergamon, New York, 1966. 187 pp., illus. \$7.

The reader will be impressed with the complexity and the number of uses to which simple reticles can be put in metrology, radiometry, error-signal detection, tracking, and a host of other applications. Most technical people would ordinarily think of reticles as simple choppers or scales, but in this work Lucien M. Biberman ex-