Reports

Village Solidarity among Turkish Peasants Undergoing Urbanization

Abstract. A group of Anatolian peasants under study are making a smooth adjustment to urban life. This is attributed to a feeling of village solidarity, which is even maintained in the greater Istanbul area. It is questionable whether this phenomenon in underdeveloped countries is detrimental to socioeconomic development, as is generally believed to be the case.

One of the most vexing problems challenging economists and other social scientists devoted to the study of the development of non-Western nations is the nature of the labor force in the urban centers of such countries. Specifically, the enduring attachment of the peasant in the urban setting to his original unit of social organization, be it a tribe, village, or extended family, forms a strong link which does violence to the model of the rural-urban dichotomy constructed by social scientists. What is generally taking place in many of the underdeveloped countries is a ruralization of the cities, where the peasants carry on an essentially rural or folk way of life (*1*, p. 123; *2*; *3*, pp. 35, 181–182). This folk character found persisting among "urbanized" peasants in underdeveloped countries is considered harmful for the development of these countries. A high rate of absenteeism due to a periodic return to the tribe or village, an "uneconomical" expenditure of wages for costly ceremonies and rituals, a penchant for association exclusively with people of the same background, persistence of folk beliefs and traditional kinship roles, and a "nonrational" approach to problems are the findings from which is derived the conventional picture of the peasant as an anomaly in an urban setting.

Despite Turkey's head start in the modernization process, her urbanization problems are, in general, not unlike those of other underdeveloped nations (*4*, pp. 22–28; *5*). Indeed, as late as 1947, one of Turkey's leading economists noted only an imperceptible growth in urbanization since the Kemalist revolution (*6*). However, since 1950 urbanization has caused consternation among many observers of the Turkish scene. In Turkey's case, industrialization financed by private capital, together with changes in the laws governing inheritance and land, was the goal of the Democratic party, which came into power in 1950. These factors seem to be associated with the sudden spurt of urbanization during the past decade (*4*, pp. 1–22; *7*).

Data derived from research among Anatolian peasants who have moved to Istanbul (*8*) conform to the general pattern, delineated above, for peasants in an urban setting. Questionnaires, interviews, and visits, particularly among a group of migrants from a village in eastern Turkey, now living near and working for Robert College, point to a high degree of village solidarity and its concomitants.

Village solidarity is manifested in cooperative labor practices, voluntary associations for mutual aid and recreational activities, and village endogamy. Furthermore, folk beliefs, traditional kinship roles, and an ethos structured on traditional village patterns appear to operate in an urban environment as they did in Yeniköy (the name is fictitious), the village of origin of the group.

One striking example of the in-group feeling possessed by these people of Yeniköy emerges in their near-total obliviousness to their next-door neighbors in the isolated shack town beyond the hills of the Robert College campus where they now live, because, "they are not of our village," as one Yeniköy informant put it. Yet this shack town is composed of only 13 shacks; seven of these are occupied by villagers of Yeniköy. The others are occupied by peasants from a Black Sea village and are built adjacent to the seven shacks of the Yeniköy group.

The people of Yeniköy hold a variety of jobs at Robert College. Their record as a labor force is good, and their rate of absenteeism is lower than that of others employed in the same type of jobs. A remarkable lack of conflict in the Yeniköy peasants' relations with other Turks as well as among themselves was noted. The disparaging generalizations usually made about peasants in urban environments (*1*, pp. 21–22; *3*, pp. 39–44; *4*, p. 26) are not valid for these people.

The paternalistic role which Robert College plays in giving its employees uniforms and providing them with warm lunches and medical care does not vitiate, to any considerable degree, a comparison of Robert College employment practices with those of any industrial firm or factory in Turkey because the latter organizations play a no less paternalistic role. Indeed, one of the earmarks of industries in underdeveloped nations appears to be the paternalistic attitude they take toward their employees—an attitude which, in itself, may hinder the development of self-reliance and independence and the subsequent urbanization of the individual peasant employee.

The very cultural trait—the peasant's attachment to his most meaningful unit of social organization—deplored by the social scientist because it is felt to militate against socioeconomic development is, in this case, operating to promote such development. The Anatolian peasant's attachment to the place and values of his background, contrary to forming an obstruction against economic development, gives him security, helps him adjust to urban life, and may even increase his level of productivity. Final successful integration of the peasant into urban life may well hinge on the degree to which he remains a part of the original unit of social organization. Continued research on this aspect of urbanization should prove highly useful.

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Instructions for preparing reports. Begin the report with an abstract of from 45 to 55 words. The abstract should *not* repeat phrases employed in the title. It should work with the title to give the reader a summary of the results presented in the report proper.

Type manuscripts double-spaced and submit one ribbon copy and one carbon copy.

Limit the report proper to the equivalent of 1200 words. This space includes that occupied by illustrative material as well as by the references and notes.

Limit illustrative material to *one* 2-column figure (that is, a figure whose width equals two columns of text) or to *one* 2-column table or to *two* 1-column illustrations, which may consist of two figures or two tables or one of each.

For further details see "Suggestions to Contributors" [*Science* **125**, 16 (1957)].

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Potassium Dihydrogen D_sL_s-Isocitrate

Abstract. The monopotassium salt is to be preferred to the lactone as the final product of the synthesis of isocitric acid by the method of Fittig and Miller.

In 1889, Fittig and Miller (*1*) described the synthesis of isocitric acid from sodium succinate and chloral by condensation in the presence of acetic anhydride. The resulting trichloromethylparaconic acid was hydrolyzed with barium hydroxide, and the isocitric acid produced was liberated from the barium salt, dehydrated, and isolated as its lactone. Fittig and Miller's procedure was studied in detail in 1946 by Pucher and Vickery (*2*), and several modifications were found advantageous. A yield of lactone free from alloisocitric lactone of approximately 60 percent was obtained in moderately large-scale operations. Further slight modifications of procedure have since been described by Deutsch and Phillips (*3*) and by Kato and Dickman (*4*), but without improvement in yield or convenience.

The excellent properties of monopotassium L_s-isocitrate obtained from the leaves of plants of the family Crassulaceae (*5*) suggested that the troublesome lactonization step could be avoided if the monopotassium salt were isolated as the final product of the synthesis. It has been found that the yield of trichloromethylparaconic acid can be increased from about 73 percent (*2*) to about 80 percent, and that the reaction goes more smoothly if a liberal excess over 1 molar proportion of chloral is used during the condensation. If hydrolysis of the acid is carried out with an excess of barium hydroxide, and the insoluble barium isocitrate is filtered from the hot solution, most by-products and impurities remain in the filtrate. The monopotassium salt is then easily isolated as described by Vickery and Wilson (*5*).

Trichloromethylparaconic acid is prepared as follows. Twenty grams of anhydrous sodium succinate, 16.0 ml of chloral (33 percent excess over 1 equivalent) and 12.6 ml of acetic anhydride (1 equivalent) are heated in an oil bath for 1 hour at 140°C under a reflux condenser with mechanical stirring. The reaction mixture turns black and becomes viscous, but remains fluid. The tar produced is dissolved in 200 ml of hot water, boiled with 15 g of decolorizing carbon, and the solution is filtered and concentrated *in vacuo* to about 120 ml when separation of sodium salts makes further concentration difficult. The solution is heated to dissolve the salts and 30 ml of concentrated HCl are added. The dark red oil which separates is induced to crystallize by chilling the solution and stirring it with a rod. The mixture is chilled overnight, and the crystals are filtered, pressed down hard in the funnel, and washed with a little ice water. After thorough drying in a vacuum desiccator, the yield is 22 to 24 g (72 to 78 percent). A little more of the acid can be recovered, usually as a few drops of oil, by extraction from the mother liquor with ether. The ether extract is washed with water before being concentrated.

Monopotassium D_sL_s-isocitrate is then prepared as follows. The crude crystalline trichloromethylparaconic acid, together with the material extracted by ether from its mother liquor, is added slowly to a hot solution of 120 g (20 percent excess over 6 equivalents) of barium hydroxide octahydrate in 150 ml of water, and the thick suspension of barium isocitrate is boiled under reflux with mechanical stirring for an hour in an oil bath. The boiling hot solution is filtered on Whatman No. 3 filter paper covered with a thick layer of Celite, and the precipitate is washed with boiling water. The barium salt is then suspended in cold water and decomposed with a slight excess of sulfuric acid, and the monopotassium salt is isolated by crystallization at *p*H 3.50 as described by Vickery and Wilson (*5*, *6*). The yield of this salt is considerably improved if 25 percent of alcohol is added to the concentrated aqueous solution, but the addition of too much alcohol may lead to contamination of the product with alloisocitrate: yield, 14 to 16 g (49 to 56 percent). Most preparations contain between 49 and 50 percent of potassium L_s-isocitrate as determined by the isocitric dehydrogenase method of Ochoa (*7*). Once recrystallized from hot water after addition of 25 percent of alcohol, the salt is essentially pure. The solution from which the monopotassium salt is isolated contains isocitric acid and alloisocitric acid in the ratio of approximately 10:1 as determined by chromatographic analysis on Dowex 1 by the method of Palmer (*8*) with formic acid as eluent.

Monopotassium D_sL_s-isocitrate crystallizes from water in tiny needles which collect in nodular masses and adhere strongly to glass unless the solution is stirred during crystallization. When crystallized slowly from alcohol-containing mother liquors, it forms fascicles of small flattened rhombic needles often aggregated into masses. The salt is soluble in its own weight of water at boiling temperature. The solubility at 0°C of a three-times recrystallized specimen is close to 8 g in 100 ml of water and 1.5 g in 100 ml of 25-percent alcohol. It is thus appreciably more soluble than monopotassium L_s-isocitrate. It decomposes at 175° to 176°C with evolution of gas (*9*).

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Nucleic Acids in Some Deuterated Green Algae

Abstract. In order to determine whether the replacement of hydrogen by deuterium in living organisms is accompanied by changes in amounts and distribution of the cellular components, a preliminary cytochemical investigation has been made on deuterated *Chlorella vulgaris* and *Scenedesmus obliquus*. Cytoplasmic ribonucleic acid is more widely distributed and occurs in higher quantities in deuterated than in nondeuterated algae. Nuclei of deuterated cells are more irregular in shape, and mitotic figures appear with greater frequency in the deuterated organisms.

As part of a study of the effects of deuterium on biological systems, we have made a cytochemical study of some deuterated green algae. The cultivation of *Chlorella vulgaris* and *Scenedesmus obliquus* in 99.6-percent D_2O under conditions that lead to essentially fully deuterated organisms has been previously described (*1*). The organisms used in the studies described here were grown in D_2O for protracted peri-