

## Book Reviews

**The Strategy of Conflict.** Thomas C. Schelling. Harvard University Press, Cambridge, Mass., 1960. x + 309 pp. \$6.25.

*Strategy of Conflict* is an extraordinary book; it sheds completely new light on the inner mechanism of human conflicts as they develop and finally reach their conclusion.

One of Schelling's central themes is the decisive terminal stage of conflict, the "moment of truth" when the will of one opponent prevails. At that moment, it is no longer strength or skill that counts. What the participants could do to each other by exploiting their positional advantages, they have done. But all this, Schelling argues, does not decide the outcome, or at least not completely. In many interesting cases—in bargaining, for example, which is analyzed at length—the participants go into the terminal stage with an indeterminate problem on their hands. Their positions are still apart, but each would rather settle on the opponent's terms than to fail to make a deal. If both remain stubborn, then both will get something worse than they could have achieved. Then what? They could throw dice, or split the difference (this happens often enough), but there is also a third possibility. By using "bargaining strategy," one of the opponents can force the other to settle on *his* terms.

What is bargaining strategy? It is the art of generating "bargaining power" which, according to the author, consists in "the power to bind oneself." In order to force *B* to settle on *A*'s terms, *A* must prove to *B* that the matter is out of his (*A*'s) hands—that he could not abate from his terms even if he wanted to. One will win, that is, *impose* a choice upon the other, by divesting *oneself* of the freedom to choose, while leaving the *other's* freedom unimpaired. This paradoxical essence of bargaining strategy is illuminated in many fascinating variants.

The same paradox, however, is also

involved in other forms of conflict than bargaining; in fact, this paradox is, for Schelling, the essential feature of *all* strategy. Let us take deterrence, for example. In order to deter another from doing something objectionable, one must make a credible retaliatory threat. The technique is trivial *if* the recipient of the threat has no doubt that the threatener is perfectly capable of punishing him without being hurt himself. Deterrence then is not a matter of "strategy," and there is no "conflict" worth speaking of—one is master, that's all. But what if the recipient of the threat has a reason to suppose that the threatener, too, would be hurt in carrying out his threat? Then there is genuine conflict, one that involves two parties opposing, threatening, and possibly fighting and hurting each other; this gives rise to real problems of strategy. For example, if it is understood by both parties that "no challenge, no retaliation" would be better for each than challenge and retaliation, the deterrer can make his will prevail by applying the strategy of proving to the would-be challenger that once a challenge is made, carrying out or not carrying out his threat is no longer a matter of free choice for him. If, in these circumstances, the would-be challenger retains his freedom of choice, he will not strike (he will be deterred). If the challenger, too, applies the strategy of binding himself, both will lose.

Why does one opponent's divesting himself of his freedom of choice "win" the game for him? It is because underneath the clash of interests there is also mutual dependence. Not all possible outcomes are just good for one party and bad for the other, or else neither good nor bad for either. Some possible outcomes are bad for *both*, while some others are *mutually* preferable to these. In other words, in bargaining, in deterrence, and in many other comparable conflict situations, the game is nonzero-sum with a peculiar feature: the players can avoid some possible outcomes that

would be bad for both, and achieve others that are relatively better for each, without being good for both.

By introducing this type of nonzero-sum game in which the players' motives are mixed—partly antagonistic, partly nonantagonistic—Schelling extends the scope of game theory. The "classic" game theory of von Neumann and Morgenstern, he argues, is essentially a theory of zero-sum games and thus applicable to *pure* conflict, in which players act *only* from antagonistic motives. Against this, Schelling proposes a new type of theory, applicable to mixed-motivation games, a theory in which "pure" conflict (the zero-sum game) appears only as a limit case, and which encompasses, in addition to this, *two* types of nonzero-sum game: the mixed-motivation game just discussed, and the game of "pure cooperation" in which all antagonism vanishes and all possible outcomes are as good or better for both players than the results they could attain without cooperation.

In this new type of game theory, much of the mathematical scaffolding of the "classic" theory disappears and is replaced by concrete, nonformalized, nonformalizable decision-principles. Also, all basic concepts of the theory are redefined. In the Schelling type of game theory, for example, "strategy" means something radically different from "strategy" in the von Neumann-Morgenstern sense. To be sure, both concepts of "strategy" refer to lines of action chosen by each player in view of what he expects his opponent to do. But the "classic" concept of strategy involves no influence directly exerted by the will of one player upon the will of the other, whereas the point of "strategy" in the Schelling sense is just this. Finally, while "classic" game theory can be developed with pencil-and-paper methods, the Schelling type of theory is in part empirical, calling for experimental investigation. Some of the most valuable material presented in the book has to do with the experimental study of nonzero-sum strategies.

Several highly important political and strategic problems now on the agenda (notably surprise attack, disarmament, and limited war) receive illuminating treatment in terms of the new theory. I cannot attempt here to demonstrate in detail either the fruitfulness or the limitations of Schelling's approach. It is enough to stress the extraordinary theoretical and practical importance of his central idea that conflict situations typically involve some element of mutual

dependence mixed with antagonism.

In fact, it seems to me that Schelling himself has not grasped the full significance of his approach. Looking at the matter closely, we discover that the implications of his conflict analyses are even more radical than he himself allows. "Pure" zero-sum conflict does not represent an extreme type of institutionalized conflict. It can be shown that it cannot exist in a stable, institutionalized form.

Let us consider, for example, zero-sum parlor games like chess. The *formal* relationship between the players in their role as players is zero-sum. Their *existential* relationship, however, is not: as existing human beings, they are not merely locked in conflict; they also derive mutual pleasure from playing the game, and that is why they are playing it. Zero-sum game interaction is embedded here in a cooperative existential relationship. In all such cases, there is mutual interest in maintaining the integrity of the game, in playing according to the rules. Cheating in parlor games, on the other hand, introduces another nonzero-sum element—mutual damage—since it tends to undermine motivations to play the game and thus to eliminate the game as a source of profit to the cheater.

Schelling indicates a way of transforming chess into a nonzero-sum game by offering rewards for pieces that remain on the board. True, if we do this, there will be mixed game motivations; winning will not be the only thing that counts. But from the existential point of view, the game is nonzero-sum anyway. There *must* be another motivation than "winning," if the game is to remain alive as an institution.

What about sharp existential conflict situations such as duels and wars? One could argue that duels to the death, disregarding the unlikely outcome of both duelers being killed, represent an institutionalized form of zero-sum conflict. This would indeed be the case if the participants regarded being killed as the worst possible outcome. But in cultures where being killed is considered the worst that can happen to someone, such duels will disappear as an institution. The institution of mortal combat can subsist only where the dishonor of avoiding the risk of being killed is mutually deemed worse than death. Then the duelers will satisfy a mutual need for honor by fighting each other to the death. This mutual need alone can sustain the institution.

As to zero-sum war, the question is,

to begin with, whether things can be so arranged institutionally that no mutually damaging outcomes *can* occur. This condition could be satisfied only by two types of war. One is a limited war with a stop rule such that the war must end when one side is clearly ahead or when there is a stalemate with both sides having lost their expendable forces. The other is a war in which one side is so much stronger that it does not face the risk of being worse off as a result of having fought. Both types of war have zero-sum features. The former, however, presupposes drastic limitation and, hence, the recognition of mutual dependence; it is somewhat like the zero-sum parlor game—a sharp conflict embedded in a more cooperative existential relationship. As to the latter, it presents a trivial strategic problem and will tend to drop out of the institutional picture: where *A* is so much stronger, *B* is far more likely to recognize him as master than to fight him. In all other types of war, mutual loss is a priori possible, and the game is nonzero-sum.

PAUL KECSKEMETI

*RAND Corporation,  
Washington, D.C.*

**Le Razze e i Popoli della Terra.** vols. 1-4. Renato Biasutti *et al.* Union Tipografico-Editrice, Turin, Italy, ed. 3, 1959. 2914 pp. Illus. L. 37,000 (approximately \$60).

The English language does not contain, as far as I know, a complete, modern work on global anthropology. The Italian language does. It is Renato Biasutti's mammoth, four-volume work on the races and peoples of the world, which was revised for the second time in 1959. According to my bathroom scales the volumes weigh 22 pounds, thus, its price is \$2.73 a pound, less than twice the cost of good beefsteak. In the library of one American university, students who have not studied Italian keep the volumes in constant use, copying the numerous folding maps showing the distributions of boat types, house types, and other phenomena rarely charted in English-language publications. The type page is 8 by 5½ inches, and there is an illustration on two out of every three pages, as well as 45 tables in color (15 of which are pictures) and 30 maps, mostly folding. Were this book in English it would fill a crying need, but it is unlikely to be translated because of the cost.

The volumes cover human evolution, racial history, prehistoric archeology, racial movements and distribution, linguistics, and ethnography. To help him write it, the geographer, Biasutti, whose university post is at Florence, and who is now 82, enlisted the aid of 17 other professors—M. Bartoli, R. Battaglia, E. Cerulli, L. Cipriani, R. Corso, G. Genna, G. Gentili, P. Graziosi, L. Grotanelli, J. Imbelloni (Argentina), A. Micheli, M. Muccioli, N. Puccioni, S. Sergi, C. Tagliavini, T. Tentori, and G. Vidossi. All except Graziosi and Tentori contributed signed chapters either singly, in collaboration with Biasutti, or in collaboration with each other. Next to the maestro's, Battaglia's name appears most frequently. In addition to writing one section, Cipriani, who is famous for his photography, contributed hundreds of magnificent photographs.

Without great elaboration, little more can be said about this publication except that it is written in a uniformly simple style, so that anyone with the rudiments of Italian (or even just French or Spanish) can use it; that it is up to date; and that it is mostly noncontroversial. Biasutti's classifications of races and culture are based on geography, evolutionary status, and history. The concepts of several other schools of anthropological thought are explained, and the coverage is monumental. Although its function is encyclopedic, this opus is a much better teaching device than an encyclopedia. While too expensive for use as a textbook in any language, it belongs in every anthropological library. Many a junior professor of sociology and anthropology or some other combined field, faced with working up a course in general anthropology, will find it a godsend.

CARLETON S. COON

*University Museum,  
University of Pennsylvania*

**Men and Moments in the History of Science.** Herbert M. Evans, Ed. University of Washington Press, Seattle, 1959. viii + 226 pp. Illus. \$4.50.

The occasion for publishing this collection of nine essays was the 25th birthday of the History of Science Dinner Club, founded by Herbert Evans in 1932. The first essay, by Egon Brunswick, is a survey of "ontogenetic and other developmental paral-