

Letters

Chance Favors the Mind Prepared

I agree with the implication of Woffle's final question in his editorial "Chance, or human judgment" (27 Feb., p. 1201): "Should Judgment wear a blindfold, or should she be required to see the persons judged?" in accepting chance events, *ceteris paribus*.

But in a society which is being severely shaken by a new-found belief that bias in judgmental processes (such as who will serve in the Armed Forces, gain admission to college, or receive the best medical care) is of a systematic form as to violate even gross criteria of rationality, the alternative to chance is not supported by a compelling argument. All other things being equal, this new belief holds that there are some in our society who bear a proportionately unfair burden of social costs and then are compensated by not having an equal share of the social rewards. Until we, as a society, manage to undertake some unraveling of presumptions upon which such a contention rests, demonstrating thereby the equity inherent in reasoned selection procedures, wouldn't chance represent the more rational alternative to that of judgment?

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... Let us assume that the problem is essentially one of selection: of a few students from many applicants, of a draft from a much larger body, or, very generally, of a good decision from a great number of possible decisions. The fundamental discovery of the last 20 years is that all such selection processes are subject to the laws of information theory. The first is that appropriate selection can be based only on information in the requisite quantity, and the second is that information is measurable and finite. It follows that in any real life situation the amount of appropriate selection that can be achieved is also finite. At any given moment, a would-

be selector will have available a certain quantity of information and no more. With this quantity he can execute a corresponding quantity of rational, appropriate, meaningful selection. When the information is exhausted, no further rational grounds exist.

Selection, then, to be rational and defensible, must be based on information. But it often happens in real life that the quantity of information available falls short of the necessary. A thousand students may rationally be reduced to 500 by the information that the college accepts men only, but what are we to do if the college can accept only 50? One would not forget, of course, that more information may be available, perhaps sufficient for the whole selection to be rational; but what if the required information is either not available or could be obtained only at a cost that is prohibitive? The fundamental principle of decision on a finite quantity of information may be expressed thus: *Use all that you know to shrink the range of possibilities to their minimum; after that, do as you please.*

With this rule in mind, we can see why the editorial was unsatisfactory. Its very title: "Chance, or Human Judgment?" tended to set the reader thinking of the two competitors, mutually exclusive, while the truth is that they are natural complements. In arriving at a decision, human judgment first should prevail; then chance should be used as the necessary supplement to bring the decision to uniqueness. ... Modern methods of decision-making use both, chance and human judgment. From this point of view the use of chance is in no way a "denial of rationality." On the contrary, chance is the intelligent man's method of selection when he knows that the quantity of information available to him as selector is less than the quantity of selection demanded of him.

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Population Crisis and Extremism

The recent explosion of articles and letters in *Science* on population became extreme (and irrelevant because it is extreme) with Hanzlik's plea (13 Mar., p. 1438) for involuntary euthanasia.

None of the recent authors has pointed out that there is a simple legal procedure that would instantly reduce the U.S. population growth rate by 20 percent—namely, revise the immigration laws to bring net migration to the United States to zero. It is estimated (1) that net migration to the United States is a positive 400,000 per year. Although recent changes in the immigration laws may reduce somewhat the immigration level from the 450,000 admitted in 1968, the current laws are not designed to bring about zero net migration.

From a purely scientific point of view, it is inefficient and ineffective to tell Americans to abort their children and kill their old folks because of the population crisis, and at the same time allow a net positive migration of over 4 million each decade.

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Reference

1. *Statistical Abstract of the United States 1969*, Bureau of the Census, ed. 90 (Government Printing Office, Washington, D.C., 1969), pp. 6-8, 85-98.

We have begun to tolerate, if not encourage, abortion as a partial means of population control. Soon we shall institutionalize the removal of oldsters under the excuse of euthanasia. Next comes culling, removal of the misfits, both physical and psychic, and finally we shall issue licenses for procreation with appropriate fees, safeguards, and penalties. This will cover the situation: abortion, culling, termination. It might even work technically. So we shall return to the world of the primitive, the so-called savage who with natural nonchalance kills off the unwanted newborn, the useless oldster, and lets natural enemies take care of the misfits. In fact, an old civilization like one prior to Mao followed similar customs. That's what you face: nothing new this side of the gates.

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