

Bringing biology into the political picture

The study of political behavior must take account of physiological factors, says a growing group of scientists

by Carl Behrens

One of the prime interests of political scientists is to find out how people feel about things. Attitudes, they reason, are fairly constant; if you know what they are, you can predict how people will act under different circumstances. And you can then study what it takes to change attitudes, so that people will act differently.

The easiest way to discover a man's opinion is to ask him what it is. Thus the opinion poll, in which large numbers of people are asked to give their attitudes on subjects ranging from whom they're going to vote for to why they used a particular kind of fertilizer on their potato crop this year, has become one of the most powerful tools in the political scientist's bag. With a steady refinement in polling techniques to make them more reliable, and the ever-increasing capacity of computers to handle large quantities of data, research into political attitudes and attitude change has become highly sophisticated.

But with sophistication has come dissatisfaction, at least for a few maverick political scientists. There is the growing suspicion that asking people what they think, and relying merely on their verbal answers to predict how they will act, is a hazardous operation. Too many other factors—emotions, physical condition, psychological conditioning—can intervene.

"Once you start there," says Dr. John C. Wahlke of the University of Iowa at Iowa City, "you begin to realize that the whole conception of attitudes that political scientists use is so feeble that you abandon it.

"You get driven into the basic psychological mechanics of the human individual."

Dr. Wahlke and Dr. Milton G. Lodge, who is now at the Massachusetts Mental Health Center in Boston, have been doing experiments to investigate how verbal responses differ from physiological and emotional ones. They hooked up their experimental subjects to instruments that measure heart rate, blood pressure and electrical skin con-

ductance—all measures of psychological or emotional condition—and showed them pictures or slogans ranging from the Washington Monument to peace demonstrators to the words "farm price supports." They also asked the subjects—all of them women, to eliminate possible distortions due to sexual differences in physiological response—to record their reaction to the displays verbally on a five-point scale: highly favorable, favorable, neutral, unfavorable or highly unfavorable.

The results of the first series of experiments, presented at a recent meeting of the International Political Science Association in Munich, are only preliminary. But they indicate that the measurement of physiological reactions adds another dimension to the understanding of attitudes—a dimension that could alter the conclusions to be drawn from standard polling techniques.

One of the findings was that the verbal response of a subject did not always match the level of emotional response. Stimuli with a racial content, for instance, tended to elicit a greater, negative, emotional response, as measured by heart rate and pulse pressure, than was reported verbally. On the other hand, respondents were less affected by stimuli relating to political authoritarianism and to civil disorder than they reported verbally.

Furthermore, the verbal scale positions do not mean the same thing for all subjects, the experiments show. The "neutral" point on the scale, for example, sometimes was accompanied by a low reactivity, indicating lack of concern with the stimulus; for others, the same verbal response was accompanied by high reactivity, suggesting indecision or agonizing over a matter of great concern to the respondent.

But even if the conventional verbal analysis is used, some interesting results can be reported in the field of biopolitics. The question of physical energy, for instance, is one which enters into practical politics frequently—politicians often emphasize the great amounts of

energy required to fill or campaign for public office—but has been little studied by political scientists. Dr. David C. Schwartz of the University of Pennsylvania asked experimental subjects to rate themselves according to their perception of their own energy level relative to others, and then classified them according to a series of behavioral orientations including conformity, reformism, revolutionism and withdrawal. He found that self-images of low-energy levels were associated with attitudes of conformity, while high-energy levels were associated with reformism.

Another area of study has been the effect of drugs on political behavior. Dr. Dean Jaros of the University of Kentucky tested the effects of a commonly used tranquilizer, pentobarbital, on 77 undergraduate volunteers and found some indication, although not a very strong one, that the drug affected political socialization.

All of these studies are in a very preliminary stage. Not only are the physiological measures still to be refined and tested, but also the different political variables have to be defined with more precision and related to the general body of political science theory.

"It's going to take a good 10 years," says Dr. Wahlke, "to sort out the variables that we want to study and to get on with it."

Another problem is that the findings of behavioral disciplines—physiological responses, human emotions, cognitive and perceptual processes—are areas in which most political scientists have relatively little training. "We've got a lot of homework to do," says Dr. Wahlke.

"We have to be a really hard science," he says. "Hard in the sense that we need hardware, hard in the sense that we have to be experimental. Lots of dollars and people."

The people are still relatively few—most of them were in the small audience to which Drs. Schwartz and Jaros presented their results in a symposium at the Los Angeles meeting of the American Political Science Association—but the dollars are starting to come in. Dr. Wahlke expects to expand and continue his studies of physiological indicators, and Dr. Schwartz has received support for studies in six areas, including research into the effects of health and aging, of changes in a person's physiology—such as weight loss or even balding—and further studies of the effects of drugs.

In fact, the pace of research may be moving faster than Dr. Wahlke predicts.

"With the help of interdisciplinary teams," says Dr. Schwartz, "we should within two or three years have significant understanding of the impact of various states of health, energy and body images on political behavior." □