

psychology. The aim of the task force was not merely to review existing research. The goal was to generate new research topics and research models to focus on neglected areas and issues of population that have not been significantly challenged by psychologists.

Last week at APA's annual meeting in Honolulu, the task force held symposia and a two-day workshop. Questions were more numerous than answers, but according to Frederick Wyatt of the University of Michigan, who chaired the workshop on family and fertility counseling, the task force found that many psychologists are becoming interested and active in population research. The task force ended with a move to create a division of population control within the APA.

To do this a petition must be signed by 10 percent of the APA membership and the signing members must all agree to become members of the new division. By-laws for the division and a statement of mission are then submitted to the existing divisions for approval. If there is no overlap in missions the APA Council of Representatives then takes the petition under consideration. By last week half the needed signatures had been obtained, but it is doubtful that approval of the 32 existing divisions will be secured in time for the December meeting of the Council of Representatives. If the process is completed by next year, the division of population control will become a reality in January 1974.

Wyatt, James T. Fawcett of the East-West Population Center in Honolulu and Nancy Russo of Richmond College at the City University of New York discussed some of the issues to be considered by the population psychologists. Minority views will be a major concern. Young black males tend to fear any form of birth control while black females of child-rearing age are more pragmatic and seem to look favorably upon it. If the population declines, parents and children will be psychologically affected. Fewer children and less sibling interaction could possibly have adverse effects on verbal I.Q. Or, will day-care facilities provide alternate sibling relationships? Is the stress of being an only child as much a strain as sibling rivalry?

What will replace the ego, social and economic value of children to parents? Alternate gratification might come from better jobs for women, but social pressures to have children will still be strong. Fertility research, the consequences of abortion, the stress of overcrowding and the personal and biological consequences of different contraceptives all have to be studied. Fawcett says such research will add a psychological perspective to the growing body of knowledge coming from other scientific disciplines.

Another ongoing APA project is the development of a new set of ethical standards for psychological research (SN: 5/20/72, p. 327). The revised principles were discussed last week at a three-hour symposium. According to Stuart W. Cook of the University of Colorado, the general consensus of the APA membership is that the present revision is appropriate. Some members feel the standards are too lax while others feel they are too restrictive, but Cook hopes to submit the new ethical code (with minor additions to the illustrative material) by Nov. 1. The Council of Representatives will review and probably adopt the ethical standards this December without a vote by the membership. □

Nailing lung cancer to air pollution

This week, a committee of the National Research Council of the National Academy of Sciences issued a report that appears to link lung cancer to air pollution more conclusively than it has ever been linked before.

The committee, chaired by physiologist Arthur B. DuBois of the University of Pennsylvania School of Medicine and comprised of some dozen other university and industrial experts in environmental medicine, preventive medicine, pathology and pharmaceutical chemistry, undertook its work two years ago for the Environmental Protection Agency. The panel has exhaustively surveyed, interpreted, evaluated and reconciled hundreds of epidemiological and experimental studies, many yet to be published. The committee's findings should not only inform the EPA and the public on the latest evidence linking air pollutants with lung cancer but also lead to more effective monitoring and control of potentially dangerous compounds. Since economists have been in dispute over the costs of air pollution control, the finds should also provide them with a sounder basis for arriving at costs.

Persons living in urban areas, the committee reports, have twice as high an incidence of lung cancer as do those living in nonurban areas. Within urban communities the incidence is even greater where fossil-fuel products from industrial usage are highly concentrated in the air. Immigrants usually have an incidence of lung cancer somewhere between the rates for their home countries and those of the countries to which they migrate. The older people are when they migrate, the closer their lung cancer rates are to those in their home countries. In some cases in which the lung cancer rate was much higher in the country of origin, rates among persons who left decreased significantly,

even though their cigarette smoking increased. "These studies," the panel asserts, "suggest a significant environmental effect operating early in life for lung cancer development."

The air pollutants of special concern, the committee continues, are polycyclic organic matter (POM). Three major sources of POM in the air—coal- and wood-fired residential furnaces, coal refuse fires, and coke production from the iron and steel industry—account for more than 90 percent of the annual nationwide POM emissions. Motor vehicle emissions represent another significant source. A major source of indoor, nonindustrial pollution is tobacco smoking.

Studies of job-related diseases show that POM is implicated in skin cancer and other skin reactions such as dermatitis, hyperpigmentation and acne among workers engaged in the burning, refining and distilling of fossil fuels. However the panel found no evidence that POM in urban air is directly associated with noncancerous lung diseases, such as bronchitis or emphysema.

POM is highly reactive. Evidence suggests these compounds are degraded in the atmosphere by photooxidation, reaction with atmospheric oxidants and sulfur oxides. Most of the likely atmospheric reactions produce compounds that could damage human health. Some, but not all, attempts to produce tumors in experimental animals with polycyclic compounds have succeeded. The tumor-inducing agents appear to transform normal cells directly into cancer cells. They may or may not "switch on" a latent virus that may be responsible for cancer induction (SN: 7/29/72, p. 68).

Neither epidemiological nor experimental data, the panel asserts, are adequate to determine a safe dosage of any chemical carcinogen below which there will definitely be no tumor response in humans. The panel declares, "One must always insist on the lowest possible exposure to air pollutants."

Of the various polycyclic organic compounds described in the report, one cited as being of greatest concern is benzo[a]pyrene. It is a particularly potent carcinogen in animals. The committee estimates that the lung cancer death rate rises five percent with each additional microgram of the compound per 1,000 cubic meters of air. A reduction of urban benzo[a]pyrene pollution from six micrograms to two micrograms per 1,000 cubic meters might be expected to reduce the rate of lung cancer by 20 percent.

"Benzo[a]pyrene," the panel concludes, "could be used as an indicator molecule of urban pollution, implying the presence of a number of other polycyclic organic materials of similar structure that may also have some carcinogenic activity." □