

Joseph Goldstein, along with British psychoanalyst Anna Freud, emphasized the rights of foster parents over natural parents and advocated in appropriate cases the possibility of foster parents prohibiting natural parents from visiting the child. "We challenge that point of view," says Fanshel. "The child needs to see his parents, even if they are 'flawed.' It is better . . . than to reckon with *fantasy* parents who play an undermining role on the deeper level of the child's subconscious. Natural parents should not be exiled."

Responding to the Columbia findings, Solnit told SCIENCE NEWS that he and Fanshel are essentially "not in conflict. If the visit by the natural parents is congenial and harmonious with the care from long-term foster parents, there is no reason why this [visitation] shouldn't be supportive." His "disagreement" with Fanshel's conclusions is that they are "not individualized enough . . . [and] too sweeping."

Natural parents should be excluded "under certain conditions," says Solnit, a psychoanalyst. "When they [the visits] are forced upon foster parents, that . . . raises problems. And where natural parents haven't visited the child for two or three years, then the parents *are* the foster parents. We are not in favor of children leaving their natural parents," he says, "but if they do, they have the right to continuous care."

The Columbia results, at least in the cases of black and Hispanic youngsters, also question the 1951 findings of British psychiatrist John Bowlby who linked foster care to a lessening of mental abilities. However, black and Hispanic children who remained in care for the entire five-year period of the Columbia study achieved greater IQ gains than those who returned to their natural families. In contrast, though, white children who remained in foster homes showed significant declines after two and one-half years, compared with those who returned home. Fanshel attributes the difference to the "relative calm and stability" of foster homes as compared with the often "catastrophic" home environments of minority youngsters. White children, on the other hand, were more apt to come from intact homes, where the problems centered more on the child's own lack of adjustment than on family disintegration. He also reports that children seem to develop better under "democratic and permissive" foster parents than they do under "authoritarian" ones.

Fanshel concedes that contact with a natural parent can be detrimental to a child in certain cases, but he says not enough avenues toward the reuniting of natural families have been explored. "If society will invest the appropriate resources to restore the family, and *then* it doesn't work, then you move on to . . . termination of [natural] parental rights and an early adoption process. The child shouldn't be left in limbo." □

## ACTH and endorphins: A common origin?

During the past several years, an increasing number of brain proteins have been found to exert dramatic and unexpected effects on various emotions and behaviors. For instance, an amino acid sequence common to two different pituitary gland hormones — MSH (melanocyte-stimulating hormone) and ACTH (adrenocorticotrophic hormone) — has been found to enhance attention and to improve memory in the mentally retarded (SN: 9/25/76, p. 202). Tiny proteins called enkephalins appear to be the brain's own natural opiates (SN: 6/26/76, p. 406). Brain proteins called endorphins may help schizophrenics (SN: 10/30/76, p. 282).

Now it appears that all these behaviorally active brain proteins may derive from the same common precursor molecule, according to research reported in the December PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES by James L. Roberts and Edward Herbert of the University of Oregon at Eugene. The apparent precursor molecule is located in the pituitary gland.

Under certain cell culture conditions, messenger RNA from mouse pituitary gland cells is translated into an ACTH with a molecular weight of 28,500 daltons. The regular ACTH weighs only 4,500 daltons, however, suggesting that it must come from the larger molecule. Still other research has shown that the enkephalins

and endorphins both derive from a larger molecule called beta-lipotropin, and that both the 28,500 ACTH and beta-lipotropin are present in the same cells in the pituitary gland.

Might the 28,500 ACTH be not only the parent of regular ACTH but also the parent of beta-lipotropin and, in turn, of its offspring, the endorphins and enkephalins? Roberts and Herbert conducted protein analyses on proteins in mouse pituitary cells, and they report in the PNAS that the 28,500 ACTH indeed appears to be a common source of both ACTH and the beta-lipotropin molecule.

Whether all of beta-lipotropin comes from 28,500 ACTH has not yet been demonstrated, however. Nor is it known whether the 28,500 ACTH is the same as an apparent precursor of beta-lipotropin discovered recently by Roger Guillemin of the Salk Institute in LaJolla, Calif., and by Sidney Udenfriend of the Roche Institute of Molecular Biology in Nutley, N.J. (SN: 7/2/77, p. 6). Still to be shown is whether MSH, or at least the behaviorally active sequence in it that is identical to that in ACTH, also derives from the 28,500 molecule. Still other challenges: Determine whether the molecule spawns any other behaviorally active proteins, and find out why and how the brain makes one big protein behavior molecule, only to lop it off into smaller bits. □

## Robert R. Wilson resigns in protest

For years the United States budget for basic science has been relatively static or even in decline. Exactly how one assesses the raw amounts depends on how one defines basic research and how one values a dollar (how one allows for inflation, etc.). But it is clear that the days of regular and generous increases are over.

The budgetary crunch has been hardest in astronomy and physics; the life sciences tend to benefit from the pains of cancer and heart disease and the pitiful pictures of sick children on posters. In scientific terms the budgets have meant a slowing of research; in human terms they have meant numerous career disappointments. Now there has been a resignation in protest of this situation by one of the leaders of the country's physics establishment, Robert R. Wilson, director of the Fermi National Accelerator Laboratory.

Wilson is resigning, because, he says, his laboratory is underfunded. To quote Wilson's letter to Norman F. Ramsey, president of the Universities Research Association, which operates Fermilab for the Department of Energy, "... the future viability of Fermilab is threatened because the funding has been below that necessary to operate the existing facilities responsibly;

presently we are operating at about half of our capacity to do physics experiments...." Another discontent is the slowness of the funding of the Tevatron, the project to double the energy of Fermilab's proton synchrotron, which at 500 billion electron-volts, is now the world's most energetic, and the cool governmental response to the laboratory's proposal to build colliding beams of ultrahigh-energy protons. Wilson points out that the financial resources of Fermilab's European counterpart, the international CERN laboratory in Geneva "are considerably more than double our own. . . . Such considerations led me, in desperation, to the conclusion . . . that I should not continue to give the impression that I could responsibly direct Fermilab without a substantial increase in the funding."

The only public response to the resignation so far is Ramsey's, who says, "... science at Fermilab, in America and throughout the world will suffer a great loss." It seems too late in the budgetary process for Wilson's resignation to have much effect on Fermilab's funds for fiscal 1979, but it is possible that Congress might increase the laboratory's funds without a request to do so from the administration. □