

Woman Launches Institute For Off-Beat Scientists

Tucson Daily Citizen, October 19, 1960

And in the future it intends to offer hospitality to scientists with off-beat ideas as well as those who can't find a corner in which to work. The leader of the exiles is an enthusiastic psychologist who has the remarkable ability to train one-cell creatures called paramecium aurelia (a form of protozoa). And having fought her way through the scorn that idea originally created. Dr. Beatrice Gelber believes she can spot another original—but hopefully sound—idea. The soundness of the protozoa work, she believes, is that it may lead to the biological nature of higher beings like us. Dr. Gelber herself is a refugee of the University of Chicago where she found herself so crowded for space she couldn't enjoy much working on her \$100,000 contract with the National Institute of Health. And so with kindred spirits, she formed the Basic Research Institute of Health and recently moved it to Tucson where she expects it will attract others of the same point of view. A university can't be blamed either for its crowded facilities or its conservatism towards new ideas, Dr. Gelber said. But the country does need a new kind of place where janitorial services are available without requests in triplicate and an original thinker can find congenial company.

"Inevitably the new idea will be off beat," Dr. Gelber said. "But we can spot the fellow who doesn't know what he's talking about. We can tell whether his idea is solid or blue sky."

Dr. Gelber's own scientific career was a little off beat from the beginning in that it didn't really begin until her children were grown. But with her youngest child in college, and some time on her hands, Dr. Gelber decided to follow a natural curiosity which eventually led to a doctor's degree in psychology at Indiana. The idea that finally gripped her was that if you are going to try to understand life you will have to go finally where it all starts—at the individual cell. And so she began working with the paramecium aurelia, a friendly creature about 1/250th of an inch long that likes to swim about in fluid. The idea that attracted her was—could you train one?

"They all thought I was plain crazy when I started," Dr. Gelber said. "But now they think I may have something."

The system she finally worked out to train the paramecium was to first teach them to eat from a piece of wire inserted in their liquid. Then she found she could insert the wire—with no food on it—and the paramecium would still go to it.

"This is the same thing you do with a dog," Dr. Gelber said. "These are very sensitive little beasts and fascinating to watch. It is astounding what complex behavior they will show. When the wire is first inserted, they will hide. Then they will slowly swoop on to the wire, nestle up and cling to it." It takes about a half hour to train them."

More specifically, Dr. Gelber is interested in the relation of aging to paramecium and she has already found out something interesting. If conditions are right, paramecium are theoretically immortal—they just keep on dividing. But to keep this vitality they must

mate from time to time. In some mysterious way, a paramecium will select a mate, slide up to it and remain joined for two to six hours. But if it doesn't find a mate—or fertilize itself, it will deteriorate and die. This shows an effect of aging.

The paramecium have to be hungry to undertake fertilization. Dr. Gelber found that the progeny of self-fertilization can be taught the wire trick and remember it while the offspring of mating can't be taught.

With a lifetime's work ahead on her paramecium, Dr. Gelber is now looking for adventurous colleagues. They have to bring their own money with them, but grants aren't hard to find, she said.