

Placebo buster

There is a growing chorus of scientific criticism that brands psychotherapy research as inadequate because, unlike behavior therapy and drug treatments, the benefits of psychotherapy have not been compared with those of inactive, "placebo" treatments. But this argument, responds psychologist Morris Parloff of American University in Washington, D.C., should be bronzed and shelved with other outdated psychotherapy research techniques.

"In the field of psychotherapy, the term placebo is both conceptually grotesque and operationally infeasible — or nearly so," writes Parloff in the February *JOURNAL OF CONSULTING AND CLINICAL PSYCHOLOGY*.

One problem, he argues, is that the medical concept of a placebo — an inactive medication prescribed to placate a patient rather than treat a real disorder — is exceedingly difficult to apply to a host of psychotherapies. Since there is no consensus on the active ingredients of each therapy, he says, designing a placebo treatment is an exercise in futility. Specific techniques are not a good benchmark, says Parloff; patients tend to be reassured by the expertise of therapists who emphasize techniques and procedures, thus encouraging inadvertent placebo effects. In any case, he adds, many therapists are more concerned with nonspecific factors, such as the quality and strength of the relationship with a patient. And unlike drug researchers, therapists would know if they were dispensing a placebo or experimental intervention. The enthusiasm of placebo therapists, and the confidence of their patients, would inevitably suffer.

If not placebo controls, then what? Psychotherapy studies already have shown that many types of therapy can have positive effects, points out Parloff, but the myth has flowered that each treatment is equally effective for all kinds of disorders. He proposes that researchers now compare treatments with different types of interventions (say, instructing patients on how to think about problems in new ways versus fostering emotional expression and psychological insight) and see what works best for specific problems. The patient-therapist relationship, treatment length and other nonspecific variables could be held largely constant across therapies.

"I am not sanguine that the doubts nurtured by psychotherapy's most intense and imaginative critics will be appeased [by new placebo studies]," notes Parloff. "But the placebo challenge, as proposed, is ill-conceived."

The 26-session solution

Researchers have come up with some timely evidence about psychotherapy. Psychologist Kenneth I. Howard of Northwestern University in Evanston, Ill., and his colleagues pooled data from 15 psychotherapy outcome studies (mainly talk-oriented approaches) based on more than 2400 patients covering a 30-year span of research. After the completion of eight weekly sessions, approximately half of the patients were measurably improved, report the investigators in the February *AMERICAN PSYCHOLOGIST*; about three-quarters of the patients were significantly improved by the end of 26 sessions, according to therapist, patient and researcher ratings. Moreover, about 15 percent of the subjects reported feeling markedly better before attending their first therapy session.

The researchers note that important questions remain: How many sessions are needed for maximum benefits from psychotherapy? Which types of therapy benefit what types of patients most quickly? "However," they say, "in clinics that serve a large population with limited resources, 26 sessions might be used as a rational time-limit." The analysis suggests, they add, that researchers use six to eight sessions as the cut-off point for including patients in treatment groups.

Where do storks come from, mommy?

Surprisingly, condors and other New World vultures are much more closely related to storks than to Old World vultures, according to recent studies of these species' DNA molecules. Over the last 10 years, Charles G. Sibley and John E. Ahlquist of Yale University have developed a system of classifying birds by the similarities in their genetic material. They have analyzed more than 25,000 DNA samples from about 1,600 bird species, using techniques that are also being applied to primate classifications (*SN*: 6/9/84, p. 361).

The researchers find that DNA evolution occurs at the same average rate in most bird species, so it can provide a measure of when species diverged. The bird family tree proposed by Sibley and Ahlquist disagrees in several of its branches with previous classifications based on the anatomical similarities, but it fits well with geological data, Sibley says.

"Anatomical characteristics are shaped by functional requirements and may provide false clues about the history of a species' evolution," Sibley says. "Swifts and swallows, for example, are superficially alike because both groups are specialized to feed on flying insects." But the DNA comparisons indicate that they are not closely related. The swifts are more closely related to hummingbirds, and the swallows are classified among the songbirds.

Perhaps the most surprising DNA finding, the scientists say, is that starlings, which have been considered to be relatives of crows, are related instead to mockingbirds, from which they evolved 25 million years ago. Sibley says, "This correlates with the belief that the two species evolved from a common ancestor that lived in northern Canada and Greenland until temperatures cooled about 25 million years ago and forced birds and animals south to Europe and America."

Cows have conservative chromosomes

A cow's chromosomes are virtually uncharted territory, compared with the genetic maps of human and mouse chromosomes. Whereas the human map currently contains more than 800 genes and the mouse map about 750, only 35 genes have been placed on the bovine map and geneticists do not yet know which of the cow chromosomes correspond to the different areas of the map. A recent study, however, indicates that the cow genetic map closely resembles the human map.

The genes for 32 proteins similar in cattle, humans and mice have been mapped in all three species. The maps of the cattle and the humans differ for only three of these genes, but the maps of the mice and humans differ in nine locations, report James E. Womack and Yvonne D. Moll, of Texas A&M University in College Station, in the most recent (January/February) *JOURNAL OF HEREDITY*. This finding suggests that cows, like primates and cats, have evolutionarily stable chromosomes, as opposed to mice, Chinese hamsters and dogs, whose chromosomes have undergone more extensive rearrangement during evolution.

Plant hormone in mammalian brain

Abscisic acid, a hormone made by mosses and vascular plants, has been identified in rat and pig brains. In the plants, the acid regulates a great number of processes, including seed dormancy, stress resistance and aging. Now M.-Th. Le Page-Degivry and colleagues at the University of Nice in France have isolated this hormone from brains and demonstrated that, when applied to plant surface pores, it has the same activity as the plant hormone. They further report in the February (No. 4) *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES* that the brain abscisic acid does not seem to be a consequence of a diet containing abscisic acid. The role of the hormone in the brain is currently under investigation.