

Terry O'Neil, a junior biologist, read the April E&S while in the middle of final exams and says this Caltech version of Harlow and Suomi's monkey experiments suggested itself to him at that time.—Ed.

Induced Psychopathology in Teachers*

by Terry O'Neil '71

We are trying to produce psychopathological syndromes as analogous to normal student disorders as possible. From that base may come techniques for rehabilitation of depression.

Some 15 years ago the staff at the California Institute of Technology instituted a research program designed to induce psychopathology in freshman Teachers by means of abusive courses and examinations. The program was largely successful; however some students made it through the program and enjoyed it! Seeing this, we thought we had totally failed to produce psychiatric syndromes in Teachers. Then, Ion Seeker, an Australian psychiatrist, visited the Institute, listened to our sorrows, and took a tour of the "Student Houses." After observing

the students busily studying, he asked, "Why are you trying to produce psychopathology in Teachers? You already have more psychopathological students in the Institute than have ever been seen on the face of the earth."

We call the housing situation where Seeker observed normal Teachers "partial social isolation." Here, Teachers live alone or in pairs in concrete rooms where they can see and hear the real world, but cannot physically interact with it. Our Teachers had lived in this situation for most of their academic lives, and their personal-social behavior had progressively deteriorated. These Teachers have been denied both ignorance and agemate relations.

When our Teachers were maintained in partial social isolation for several terms, some of them developed what we call the catatonic stare; they sat in front of their desks staring into their physics texts, paying no attention to other Teachers or the real world. Often the Teacher would absently whistle a few bars of some Wagner opera. When he realized what he was whistling, he would jump. He would be scared to death of this awesome spectre he had raised.

Another interesting result of partial social isolation was that after a few weeks aggression progressively developed. When the Teachers were discouraged from throwing things at each other or throwing each other into the numerous showers, these Teachers turned against their studies. They were seen ripping test booklets to shreds and burning class notes. Self-aggressing Teachers do not normally rip and rend their books apart, but under unusual stress some of these Teachers would rip their books and notes to scrap.

There is a technique to raise nearly normal Teachers in partial social isolation—by providing them with synthetic reality. In our original studies on the surrogate reality we saw and were not surprised that the Teachers would cling 23 hours a day to these objects. What did surprise us was that these inanimate objects imparted to the students a sense of security.

Knowing that Teachers liked reality, we thought many years ago that we could produce anaclitic (dependency) depression by allowing freshman Teachers to attach to surrogate realities who could become monsters. It was a

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*The unwitting (and invaluable) assistance of Harry F. Harlow and Stephen J. Suomi (April 1970, E&S) is appreciated greatly.



When a Techer is reared in partial social isolation, self-destructive behavior may be his only way to express aggression. This Techer is actually breaking his slide rule to pieces, possible under conditions of unusual stress.

fascinating idea, but as we have already conceded, the methods were less than totally successful.

The first of these monsters was an engineering math which, every ten weeks on schedule, would give a high-pressure final exam. These "AM95" exams would practically blow the Techers' heads off. What did the Techers do? They simply studied longer and longer, because a scared troll clings to its studies at all costs.

We did not give up. We built another surrogate monster reality that gave such incredibly long reading lists that the Techers' tired, bored eyes would constantly fall shut. The third monster involved long, boring lectures with pop quizzes in class. Although the Techers were distressed by these traumas, they simply waited until after Finals Week to get all their sleep and recuperation.

We then measured the effects of total social isolation. When freshman Techers isolated for a year were put with normal college students, one or two of them died of

emotional shock, self-induced anorexia (loss of appetite). But if they survived the shock—and most of them did—a peculiar phenomenon was observed. Their total personality structure altered and they largely gave up hiding in their rooms. If the outside college students were brought into the Institute, however, they rapidly began acting like average Techers, and the psychopathology perpetuated itself rapidly.

Buoyed by these results, we have continued to search for techniques to produce depression. Our criteria for operationally defining depression are primarily behavioral. We want students who, prior to entering the Institute, show essentially normal behavior and, following a few years, display very low levels of motor, exploratory, social, and intellectual activity, very high levels of passivity, and possibly revulsion at the thought of a hamburger. One reason for producing such a syndrome is that one cannot do research on the ultimate technical curriculum until a behavioral syndrome has been achieved that is unequivocally "screaming depression" and can be maintained for weeks and months at a time.

Obviously, one cannot combine physical and psychological depression and draw proper conclusions concerning curriculum content. Accordingly we have designed a device for producing depressive behavior without imposing direct physical discomfort on the Techer. This device is called a "student house room," or "pit." Confinement in a pit produces an extremely depressed Techer, and one that remains depressed for many months following removal.

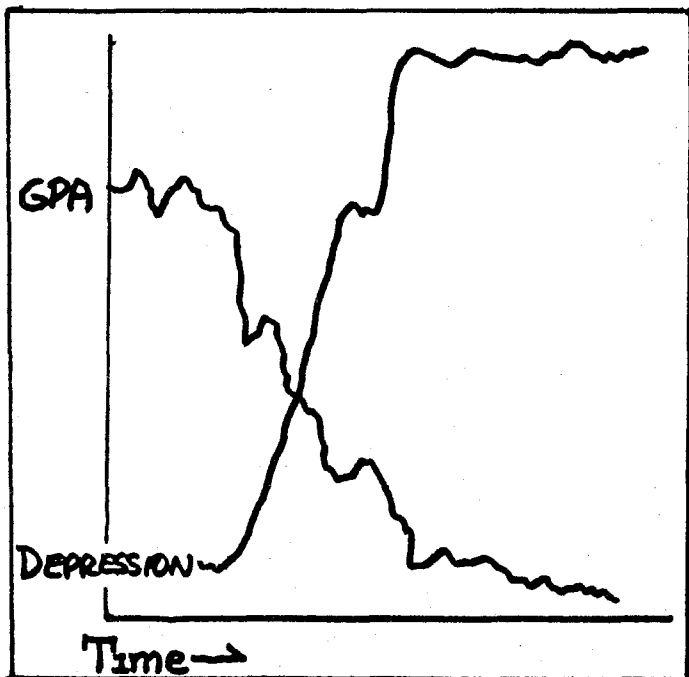
The Techers in the pits can move about freely in all three dimensions, but they gradually cease to move at all. After a term or two, or for some a few weeks, the Techers assume either a permanent position at a book-heaped desk or a permanent supine position on a bed: It is a "giving up" posture.

Following removal from their chambers, these responses persist. Techish behavior increases enormously after pit housing, and the ability to perform normal social tasks is simply wiped out.

We are now comparing Techers raised under three different conditions. One group had one term of isolation in the pits; one was in a pit for a year; and the members of the third group were raised in the normal boarding school environment. Simple infantile response patterns remain very high for years in those Techers "pitted" for only one term. More complicated social behaviors were simply eradicated in these Techers long after release.



After a few days—or perhaps a week or two—a Tacher in the pit stops studying and assumes a “giving up” posture. Even long after removal from the pits, young Tachers show depressed and infantile behavior.



While the immediate goal of our present research is to provide reliable, long-lasting depression patterns in Tachers analogous to those observed in monkeys diagnosed as depressed, it represents only a first stage of our over-all depression project. The next stage is to modify existing housing and curriculum so that the degree of depression subsequently exhibited by the Tachers can be controlled. When this is accomplished, it will open up vast possibilities for the parametric study of the optimally boring, frustrating college environment. For instance, it would be possible to determine if Tachers of limited social experience are more susceptible to such manipulation than freshmen given unlimited social interaction throughout their lives. Perhaps early exposure to stress-inducing curricula inhibits or exaggerates the effect of the depression-stimulating environment.

To investigate these areas we are using combined living-working complexes attached to the Institute.

A final, and perhaps most important aspect of our research program involves development of techniques to spread our remarkable syndrome. Possible techniques include environmental, political, or pharmaceutical manipulations, either alone or in combination.

We are also employing our own group techniques. Remember that if you place a normal college student in total isolation for 6 months with equal-aged normal students, you get a socially damaged mess. When students from other colleges transferred into the Institute research program, they were exhibiting normal social behavior. After about 6 weeks it was very difficult to distinguish between the transfers and the Tachers. It appears that this experiment, which is very near to completion, will disclose highly significant effects for other colleges to consider.

It is essential to realize that the findings of such work hold implications for normal student depression only at the level of analogy and within the limits of comparative behavioral research. Nevertheless, we feel that our findings from investigations of depression in Tachers will be important to normal student therapists working in an area currently devoid of data from controlled research.

