

DO WE NEED FEEDBACK?

A current debate within parapsychology is whether experimenters should or need to give feedback to their subjects. As you will see in the next two articles, the answer to this question is not absolutely clear. Charles Tart will argue that feedback is absolutely necessary, while William Braud will point out some potential difficulties in feedback being psi-conducive. To a great degree the authors, you will notice, point to different data in supporting their positions. But one thing is clear: more research needs to be done since the question of feedback is no pivotal. It is important on the one hand in seeing whether the traditional learning paradigm, supported by Tart, applies to learning psi. If it does, then we ought to be able to teach people to use ESP in basically the same way as we teach them to ride a bicycle or to do addition. Feedback is also important in parapsychology since two of the leading models are in dispute on whether feedback is necessary to produce psi. Observational models proposed by Schmidt and Walker make feedback essential to the production of psi. Stanford's Conformance Behavior Model rejects feedback as fundamental. Thus, two of the leading theories of explaining psi take opposite stands on the necessity of feedback, so experimentation on feedback may lead to the acceptance or rejection of one of these kinds of theories. Finally, if we find feedback to be important, we need to find out how to alleviate the problems pointed out by Braud that may arise in giving feedback.

One final note: the terms "subject", "percipient" and "participant" are used interchangeably in the two articles. Some parapsychologists think that "subject" has negative connotations about how participants in our experiments may be viewed and have opted for other terminology, but no alternative term has been widely accepted.

USING FEEDBACK TRAINING TO GAIN CONSCIOUS CONTROL OF PSI

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Parapsychology is a frustrating science. We not only have no useful theoretical understanding of psi, but our results are unreliable, and even when psi appears, it is usually at statistically significant but practically trivial levels. This compounds the difficulties of trying to theorize about psi: we are dealing primarily with noise, not signal. I have long believed that finding ways to make psi manifest reliably and at practically significant levels is the most important research problem facing us. My interest in feedback training of psi stems from this concern.

In the January 1966 issue of the *Journal of the American Society for Psychical Research*, I proposed that there was a straightforward reason why decline effects were common in psi data: the usual practice of testing percipients, in which feedback of results about individual trials is either non-existent or long delayed, constitutes an extinction paradigm. Simple learning theory would predict extinction of psi ability — a progressive worsening with continued testing — under such conditions and that is what we were seeing. We had been, unfortunately, destroying the phenomena we wanted to study.

The positive side of my learning theory application was that the provision of immediate feedback should not only eliminate decline effects, it should allow some percipients to improve their ESP abilities with continued practice and to learn to control psi consciously. This latter prediction was subject to certain boundary conditions, discussed below.

Feedback in various forms was occasionally used by other investigators, and some of their findings, coupled with the stimulus value of my 1966 article, resulted in considerable interest in and a fair amount of experimental work on the role of feedback. What have the findings

about feedback been, and what is the status of my theory today?

The vast majority of the experimental work with feedback has been, unfortunately, irrelevant to my learning theory application. Two important boundary conditions specified in the theory have usually been ignored. First, it is important that feedback be *immediate*. Feedback at the end of a session, 10 minutes later, or even 30 seconds later is not immediate feedback. As I pointed out in an expansion of the theory dealing with internal processing (Tart, 1977), the percipients' task is to survey and catalog their mental processes leading to their responses, and then to note the correspondence or lack of correspondence of each mental quality with success or failure on each trial. Since many mental processes are subtle, rapidly changing, and rapidly fade from memory, introducing a delay of even a few seconds before feedback about correctness makes the percipients' task considerably harder. Thus, studies in which feedback has been delayed by even a few seconds are interesting in themselves, but they are not dealing with the kind of immediate feedback necessary to test my learning theory application.

Second, there is a problem inherent in any multiple-choice psi task — being right part of the time by chance alone. This adds a built-in element of confusion for the percipient trying to correlate his/her mental conditions with success or failure. Thus, in the 1966 presentation of the theory, I postulated a *talent threshold*: if a percipient shows little or no demonstrable psi on a task to begin with, provision of immediate feedback may slow decline/extinction, but learning is unlikely. If a percipient starts with a high level of psi on the task, however, the learning process should overshadow the inherent confusion built in by chance success, and learning should result. Based on data from my own and others' studies through 1976, I estimated that the talent threshold corresponded to a psi coefficient of about 10%. This is, unfortunately, well above

Continued on Page 2

SOME LIMITATIONS OF FEEDBACK

by William Braud
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Recently, parapsychologists have stressed the importance of providing feedback to subjects in psi experiments. According to some investigators (e.g., Tart, 1975), feedback to percipients may serve to optimize psi performance by providing immediate positive reinforcement for correct psi responses and/or by aiding in the establishment of subjective cues by which relevant psi information might be identified. Other researchers (e.g., Broughton, 1977) have suggested the use of feedback as a method of specifying the psi source in experiments. Feedback is also an important construct in the models proposed by parapsychological theorists (e.g., Schmidt, 1975).

We would agree that the presence or absence of feedback is an extremely important factor in psi experiments. Tart (1975) has summarized evidence suggesting that the presence of immediate feedback may facilitate psi performance. Indeed, I reached a similar conclusion in one of my own experiments (Braud and Wood, 1977). However, the use of immediate feedback also has its disadvantages and limitations, and these are the subject of this brief paper.

Immediate feedback may function as a *distraction*. The presentation of feedback necessarily provides the subject with additional sensory stimulation and this stimulation may contribute to the psi-irrelevant "noise" from which a subject attempts to free his/her attention. Feedback *qua* sensory stimulation may interfere with goal imagery in psychokinesis tasks and may disrupt the flow of mentation in receptive psi experiments. It may also prove disruptive to the establishment or maintenance of an altered state of consciousness if the latter is used as a psi-facilitating aid. Not infrequently, participants in our experiments have spontaneously reported these various distracting influences of feedback.

Feedback may contribute to the structuring or *constraining* of the cognitive processes of the percipient in receptive psi experiments. It has been suggested that successful psi performance may be more likely in percipients whose minds or brains are freed from such constraints (e.g., Stanford, 1980; Braud, 1981 a).

Feedback may contribute to the development of psychological conditions which are incompatible with psi success, including decreased confidence, increased feelings of personal responsibility, ego-involvement, and striving. If "hits" are not occurring in abundance, feedback will necessarily inform a subject of his lack of success and may result in feelings of discouragement which can interfere with performance. In psychokinesis experiments, the provision of feedback may result in conflict between the intention for an event to happen and the perception of the event not yet happening. My favorite example of such a conflict is William James' report (Padfield, 1976) that when he came to will a table to move in his room, he was prevented from doing so because

Continued on Page 2

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PARAPSYCHOLOGICAL ASSOCIATION

The Parapsychological Association was created in 1957 and has been an affiliate member of the American Association for the Advancement of Science (AAAS) since 1969. The Association is a private, non-profit, tax-exempt organization, whose approximately 275 Members and Associates include scientists from a broad range of disciplines pursuing research on a variety of seminal issues and problems. Many occupy positions of leadership in science, public affairs, industry and academia.

The P.A. Charter defines its mission as:

- advancing parapsychology as a science
- disseminating information about the field
- integrating the findings of parapsychology with those of other branches of science.

Within the framework of these goals, the Parapsychological Association seeks to increase knowledge and obtain a better understanding of the full extent of humankind's potential for awareness, communication and action. The primary emphasis of the membership involves the investigation of psi, i.e., the apparent ability of human beings and other species to acquire information about their environment and to affect it physically without the use of currently understood mechanisms. The overall objective of parapsychology is to ascertain, through a proper application of scientific method, the nature of any psychic processes through which people interact with their environment, and to find beneficial, practical applications in the service of human needs.

For further information about the Parapsychological Association, write to Howard Zimmerman, Executive Secretary, P.O. Box 7503, Alexandria, VA 22307.

USING FEEDBACK, (Cont'd. from Pg. 1)
 the performance level shown by typical percipients. In terms of testing my learning theory, there is little extant data on the effects of immediate feedback on such talented percipients.

It should also be clear that it takes a lot of practice to accomplish feedback learning, and a lot of motivation to engage in such practice. Studies of a few sessions with untalented or unmotivated percipients are of little relevance to the most important prediction of the theory, that talented, motivated percipients can learn a useful level of psi performance.

What are the empirical results to date? In 1976, I was able to find individual percipient performance data on 237 people tested with immediate feedback in my own and others' studies. If declines are "common," as generally indicated in the literature, and if we conservatively operationalize "common" to indicate that 10% of percipients would show decline effects individually significant at the .05 level, then for 237 percipients we would expect to find 29 significant declines, and only six chance-produced significant inclines. What we actually find is at least 15 (not counting questionable results) significant inclines,

improvements in performance with practice, and only one significant decline, a result significantly different from expectation at $P < 2 \times 10^{-6}$ by the Fisher exact test. Indeed, the appearance of only one significant decline effect is quite significant by itself by an exact binomial test, even if we assume that decline effects would appear with only chance frequency: $P = 3 \times 10^{-5}$. Clearly the provision of immediate feedback drastically reduces the supposedly common decline effect. The data also suggest that some percipients show learning, especially those who were initially more talented, but this trend is less firm than the conclusion that immediate feedback eliminates declines. I have not seen any glaring exceptions to these findings in data published since 1976.

Immediate feedback training with talented, motivated percipients, then, shows the possibility of allowing such percipients to show practically significant levels of psi, a development which would revolutionize parapsychology. Whether we will devote sufficient resources to exploring this exciting possibility is another question.

REFERENCES

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 Tart, C. Toward conscious control of psi through immediate feedback training: Some considerations of internal processes. *JASPR*, 1977, 71, 375-407.

FIRST MASTERS DEGREES IN PARAPSYCHOLOGY

The nation's only accredited graduate program in parapsychology, at John F. Kennedy University, awarded its first Master of Science degrees in June. Established in June, 1977, as part of JFKU's Graduate School of Consciousness Studies, the Parapsychology program offers a scientifically based study and exploration of psychic phenomena such as telepathy, clairvoyance, precognition, psychokinesis, and the question of survival after death.

The graduate program's unique professional specialization has attracted an international community of students and faculty. Located in the foothills of Orinda in the San Francisco Bay area, John F. Kennedy University has achieved a national reputation for many educational innovations.

One of the graduating students recently received the Mid S. Weiss Award, granted annually for the best scientific paper to be published in the prestigious *Journal of the American Society for Psychological Research*. The article examines the role of memory in the process of extrasensory perception.

Two students are conducting thesis research in other countries, supported by grants from the Parapsychology Foundation. One is comparing the ESP abilities among various spiritist sects in Brazil. The other is conducting a survey examining psychic experiences and paranormal healing among urban and rural populations in the Philippines.

Other students, including the program's first graduate, have been working with computerized laboratory testing of extrasensory perception and psychokinesis. The JFKU parapsychology laboratory is located in nearby Concord, California.

For information about the Parapsychology program contact Mary Kay Wright-Mealer, JFKU, 12 Altarinda Road, Orinda, CA 94563 (415) 254-0200, ext. 76.

LIMITATIONS, (Cont'd. from Pg. 1)

the perceptual image of the table sitting full square on the floor in front of him continually interfered with his mental picture of the table moving across the room paranormally.

It is likely that experiencing feedback will lead to increased *egocentric involvement* in the psi task, and such involvement may itself be psi-antagonistic. Feedback would appear to encourage striving, which may interfere with successful performance (Braud, 1978, 1981b), and encourage the feelings of responsibility, "ownership resistance," and "witness inhibition" which Batchelor (1979) has suggested are incompatible with successful psi. As Batchelor has suggested, moments of complete belief and freedom from doubt seem necessary in order to generate paranormal phenomena, and feedback regarding a noncooperating PK target system or inaccurate mentation may actually contribute to doubtful and critical feelings. On the other hand, when one learns through feedback that a PK target system is cooperating or that one's mentation *does* accurately reflect target content, then there may arise feelings of fear of success and anxiety over the implications of personal psi ability. This interesting problem, which I suspect may be responsible in no small measure for our own failed experiments, has been treated by Tart (1975, 1980a, 1980b). The absence of immediate feedback would appear to minimize, or at least postpone, some of these conflicts and resistances.

The above are theoretical considerations. What do empirical findings suggest? Tart (1975) has mentioned findings which seem to indicate that feedback may be efficacious in stabilizing psi performance. We must remember, however, that experiments not employing immediate feedback have succeeded, that many impressive everyday life psi episodes do not involve feedback in any obvious way, and that under certain conditions, feedback appears to interfere with successful performance. To mention only a few of the more recent findings, immediate feedback suppressed PK performance relative to a no-feedback condition in percipients employing a process-oriented strategy to influence a Schmidt random event generator (Levi, 1979). Sondow (1979) found chance performance for subjects receiving feedback for their GESP ganzfeld sessions, while participants not receiving feedback evidenced significant psi hitting. Both Levi and Sondow interpret their findings in light of some of the undesirable features of feedback which were mentioned above.

We have already reported a series of studies (Braud, 1978) conducted in our own laboratory in which significant psi hitting persisted despite progressive "degradation" of feedback to both ostensible subjects and experimenters. Experiments were conducted which involved immediate trial by trial feedback (1) to both subjects and experimenter, (2) to experimenter but not to subjects, (3) to neither experimenter nor subjects, and (4) to neither experimenter nor participants, with the additional feature that the subjects were unaware of the relevant portion of the experiment. As the degree of feedback provided in these experiments declined, a corresponding decline in scoring rate was not observed. In fact, in a direct comparison of feedback vs. no-feedback conditions (Braud and Braud, 1979) significant hitting occurred in the latter but not in the former condition. A psychokinesis design was employed in these experiments.

It may be possible to provide feedback to our subjects in such a way that we might benefit