

asleep sooner (Storms & Nisbett, 1970), cognitive dissonance can be decreased (Zanna & Cooper, 1974), and anxiety from watching an upsetting film can be lessened (Girodo, 1973).

More recent studies have shown that the misattribution process may have severe limitations in therapeutic situations (Bootzin, Hermin, & Nicasio, 1976; Calvert-Boyanowski & Leventhal, in press; Kellogg & Baron, 1975; Hoehn-Saric et al., 1974; Singerman, Borkovec & Baron, 1976). Further study of the applicability of attribution theory to the placebo reaction is warranted.

CONCLUSION

Therapy is impaired if physicians are unaware of placebo effects. Therapeutic effects are attributed to specific procedures that, unknown to the physician, are caused by nonspecific or placebo effects. The therapist's credulity about the efficacy and specificity of the procedure are exaggerated, and it encourages the use of one procedure or technique for all patients. Therapists who rely on one technique are unable to treat many patients; some may be hurt because of inappropriate treatment (Jasper, 1965; Ward, 1964), and specific indications for a therapeutic procedure are obfuscated. Awareness of placebo effects enable clinicians to better evaluate the effects of therapy, contribute to the development of more flexible and appropriate procedures, and make therapy more comprehensive, resourceful, and effective.

The recognition that these factors contribute to the treatment process improve studies by investigators and may help clarify unsolved problems of the specificity of many therapies.

It is important to remember that much of this chapter is based on review of retrospective data. Careful prospective studies are necessary for clarification of the primacy, relevancy and validity of these concepts.

The history of both physiologic and psychologic treatment is largely the history of the placebo effect; those who forget the past are destined to repeat it. Garrison observed that "whenever many different remedies are used for a disease, it usually means that we know little about treating the dis-

ease, which is also true of a [remedy] when it is vaunted as a panacea or cure-all for many diseases" (Garrison, 1921).

If we keep those thoughts in mind, we may avoid the problem that the compiler of the Paris Pharmacologia insightfully observed a century ago: "What pledge can be afforded that the boasted remedies of the present day will not be like their predecessors, fall into disrepute, and in their turn serve only as a humiliating memorial of the credulity and infatuation of the physicians who recommended and prescribed them" (Haggard, 1934).

REFERENCES

- Abramson, H. A., Jarvik, M. E., Levine, A., Kaufman, M. R., & Hirsch, M. W. Lysergic acid diethylamide (LSD-25). The effects produced by substitution of tap water placebo. *Journal of Psychology*, 1955, 40, 367-383.
- Adam, K., Adamson, L., Brezinova, V., & Oswald, I. Do placebos alter sleep? *British Medical Journal*, 1976, 1, 195-196.
- Ademec, C. Extra-pharmacological factors in marijuana intoxication. Paper presented at 81st American Psychological Association, Montreal, 1973.
- Ainslie, J. D., Jones, M. B., & Stafel, J. R. Practical drug evaluation method. *Archives of General Psychiatry*, 1965, 12, 368-373.
- Aletky, P. J., & Carlin, A. S. Sex differences and placebo effects: Motivation as an intervening variable. *Journal of Consulting and Clinical Psychology*, 1974, 43, 278.
- Alexander, F. The dynamics of psychotherapy in the light of learning theory. *American Journal of Psychiatry*, 1963, 120, 441-449.
- Alexander, F. Unexplored areas in psychoanalytic theory and treatment. *Behavioral Science*, 1958, 3, 293-316.
- Bailey, P. *Sigmund the unserene*. Springfield, Ill.: Charles C Thomas, 1965.
- Baker, A. A., & Thrope, J. G. Placebo response. *AMA Archives of Neurology and Psychiatry*, 1957, 78, 57-60.
- Bank, S. P. An investigation of the placebo effect. Dissertation Abstracts, 1969, 29 (7-B), 2626.
- Barber, T. X. "Hypnosis," analgesia and the placebo effect. *Journal of the American Medical Association*, 1960, 172, 680-683.
- Barber, T. X. Experimental controls and the phenomena of "hypnosis." A critique of hypnotic research methodology. *Journal of Nervous and Mental Disease*, 1962, 134, 493-505.
- Barber, T. X. Physiological effects of "hypnotic suggestions." A critical review of recent research. *Psychological Bulletin*, 1965, 63, 201-222(a).
- Barber, T. X. Experimental analysis of "hypnotic" be-