

The Noticeability of the Cosmetic Glove

TAMARA DEMBO, Ph.D.,² AND
ESTHER TANE-BASKIN, M.A.³

A HAND prosthesis can be useful in more than one way. It can be helpful in dealing with objects, and it can be helpful in interpersonal relations. The latter aspect is the one with which we are here concerned. The usefulness of a prosthesis in human relations is termed "social usefulness." To a wearer who considers his hand amputation a private matter, for example, and to one who does not wish to be recognized as an amputee, a prosthesis is socially useful if it cannot be recognized as an artificial device. Moreover, the amputee may be concerned that another person looking at the prosthesis should feel comfortable. In such a case, that prosthesis is most useful which does not repulse or embarrass another person but is "good to look at."⁴

In 1949 a cosmetic glove, produced at the Army Prosthetics Research Laboratory, was sent for testing to the Research Division of the College of Engineering, New York University. Investigation of the cosmetic glove led to formulation of the problem of the social usefulness of prosthetic devices in general. The methods developed during the study of the glove are, furthermore, generally applicable to

the investigation of the social usefulness of other prostheses. This article deals only with the problem of the noticeability of the cosmetic glove. The question of its appearance, *i.e.*, the desirable and undesirable characteristics of the sight of the cosmetic hand, is not discussed.

EXPERIMENTS AND RESULTS

On cursory examination, the experimental prosthesis looked like a normal hand, but on closer scrutiny it could easily be recognized as a cosmetic device. Further, it did not match the normal hand of the particular wearer, although it was, at that time, the best match among several available cosmetic gloves (Figs. 1, 2, 3, and 4). Moreover, the glove simply was filled with vinyl foam, and the hand was thus nonfunctional except insofar as the amputee might wedge light objects between the springy fingers.⁵

The problem was to determine whether such a glove is realistic enough not to be noticed as a prosthesis, or, rather, how frequently the wearer of such a glove goes unrecognized as an amputee. Four different experiments were conducted.

¹Based on Report 115.07, Research Division, College of Engineering, New York University, to the Advisory Committee on Artificial Limbs, National Research Council, prepared by Elizabeth Cattell, Tamara Dembo, Sylvia Koppel, Esther Tane-Baskin, and Solomon Weinstock. Some of the experiments were conducted at the New School for Social Research, New York City.

²Associate Professor in Psychology, Clark University, Worcester, Massachusetts.

³Psychologist, South Hadley, Massachusetts.

⁴Independent of the appearance of a prosthesis to other persons is the importance of its appearance to the wearer himself. This subject involves such complex problems as the feelings a person has about his injured body, a matter much too detailed to be discussed here.

⁵In extensive work with arm amputees at the Army Prosthetics Research Laboratory, it has since been demonstrated that proper motion characteristics are as essential to hand realism as is the appearance of the glove itself. Among the most revealing features of the present APRL hand are its robotlike action in prehension and its obvious rigidity when not in use. A future goal in artificial-hand design is to build into the mechanism some reflex "cosmetic" movement in prehensile activities and some "natural" motion of the digits when the prosthesis is not in active use, such as when it is carried empty at the side during walking. See page 93. —ED.

