motions) available for harnessing in this child, and the technical limitations inherent in the devices prescribed, all militated against a high performance level. These emphasize the desirability of development of a source of external power to operate prosthesis in the extremely handicapped amputee. A weighted shoulder cap alone would have corrected the scoliosis.

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# AN IMPROVED METHOD FOR SHAPING LIMBS

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The modern prosthetist is as truly an artist as any brush-wielding Rembrandt or Picasso. Each piece of his work bears some characteristic touch, which is the stamp of his personal talent. Just as surely as a fine canvas reveals, through stroke or color tone, the identity of its creator, a production in the field of prosthetics can be identified by those who know the products, with complete assurance: "This is the work of ————————; that was done by ————————."

Such artistic achievement is a source of very great pride, not only to prosthetists themselves, but also to those in all other branches of medicine who have occasion to work with these aids or their wearers. Sometimes, however, the naturalness or suitability of the appliance for the particular patient is sacrificed to artistic effect. This problem has been minimized, if not solved, by a new approach to the shaping of artificial limbs.

The technique described below was devised and used in the Child Amputee Prosthetics Project at the University of California Medical Center in Los Angeles, under the direction of Dr. Milo Brooks. It has been largely the work of Mr. Harry Campbell, C.P., with the cooperation of Mr. Lee Wilson, C.P., of the University of California at Berkeley. The method yields especially good results in wooden appliances.

Materials needed are: a Polaroid camera, projection film type 46, a grid background of one-inch squares, tracing paper, measuring tape, scissors, a band saw, and a sander.

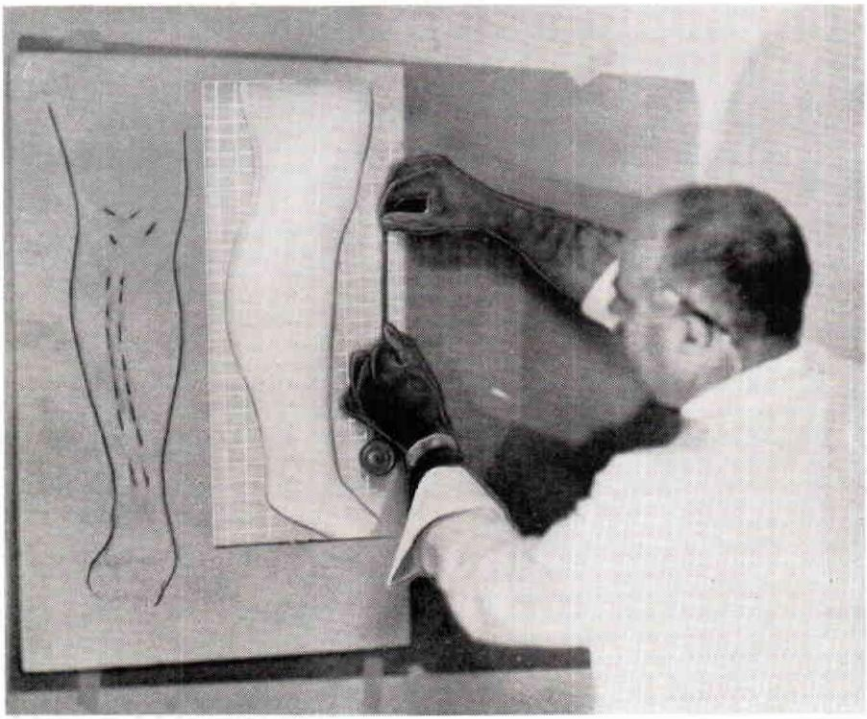
The procedure is as follows:

1. Front and profile photographs are taken of the good limb (using a Polaroid camera and projection film, type 46) against grid paper.

2. The two slides are then reversed, or turned over, to give the outline of the opposite limb.

3. These can be used in the plastic mounts furnished for a 4x4 projector, or trimmed to fit 2x2 glass mounts. The latter size is correct for a standard-type 2x2 or 35 mm slide projector.

4. Next, they are projected to correct size, onto template or pattern paper. Careful measurements are made at this point (as shown in the figure), to insure the accuracy of the one-inch squares on the grid.



5. Prominent markings are sketched in.

6. The tracings are cut out, and applied to a wooden block of the necessary size.

7. The block is then shaped to the photograph tracing with a band saw. Photographs or slides are used as a further guide to naturalness.

8. Finishing is done on a sander, according to the usual method.

There are many advantages of this slide-projection procedure:

1. Distortions, such as now occur on tracings, are eliminated.

2. Better duplication of muscle contours in a standing or walking position, with relation to the type of shoe to be worn, is possible.

3. Because the equipment is simple, the method is quicker and easier than tracings.

4. Slides or films are easily stored as a compact permanent record.

5. Less time is required with the amputee.

Although this process is still in the developmental stage, principally because of the small number of cases at hand, those who are using appliances so made are greatly pleased with the result.