AN INTERMEDIATE RESTRAINING DEVICE FOR WORKING WITH MONKEYS¹

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Many of the difficulties in working with monkeys in operant situations obviously arise at the point of contact between monkey and experimenter. Typically, monkeys are either loose in an experimental box, or rigidly held in some type of chair. The following is a brief description of a harness and associated equipment which were designed to be intermediate to these extremes.

Figure 1 shows in some detail the harness which the monkey wears continuously. Each monkey is held by dog collars around the neck and waist. These collars are attached to cross bars pivoted in an upright. The monkey is positioned either in a working chair or in a home stand by the insertion of a rod through the upright section of the harness. This rod serves as a third pivot and thus allows the monkey considerable movement. He may lean forward, backward, and slightly to the side. He may also rotate 360 degrees with the horizontal and may stand up slightly. The harness as shown in Fig. 2 has been designed to permit adjustment for monkeys varying in size.

Figure 2 shows the stands in which the monkeys are pinned when not serving as experimental subjects. These stands were made from 1-inch aluminum tubing and Nu-Rail fittings.² The uprights of the stand are not attached to the floor, but are inserted into larger size pipe, which permits the stand to slide up and down for weighing. The weighing operation is performed by moving the scale³ along an overhead trolley to the appropriate position, and by connecting stand and scale. This operation is easily performed by one man.

For experimental purposes, each monkey in turn is removed from the home stand and transferred to the working chair, which is shown in Fig. 3. The interchange of monkeys between home stand and working chair requires approximately 2 minutes and may be performed by one skilled handler.

The working chair shown in Fig. 3 is also designed to deliver electric shock by means of certain features of the chair and harness. These are as follows: 1. The leather collar which the monkey wears around his waist has been fitted with Nu-Way studs⁴ on the inside, spaced .63 of an inch apart. These studs are made electrically continuous with each other and with the lower cross bar of the harness by means of a brass strip on the outside of the collar. 2. The rod on which the harness pivots is electrically isolated from the chair by the use of two Micarta supports instead of aluminum tubing. 3. The two removable rods above and below the top cross bar of the harness (which prevent the monkey from doing a flip) are inserted through lengths of rubber hose. This is necessary to prevent a direct short between harness and chair. 4. One side of the shock source is connected to the rod on which the harness pivots, and the other side is grounded to the chair. Thus, in the described arrangement, the monkey receives a shock by current passing through the harness, through the waist collar,

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²Nu-Rail fittings obtainable from Hollaender Manufacturing Company, Cincinnati, Ohio.

³Toledo Hanging Scale, Model 2110, Toledo Scale Co., Toledo, Ohio.

⁴Nu-Way snaps obtainable from John Marshall Associates, Inc., 857 East Main Street, Bridgeport 8, Connecticut.

and through the monkey to any part of the chair with which he is in contact. Shock delivery has been found reliable and practically escape-proof. Also, it has not been found necessary to clip the hair around the waist, nor to make the waist collar-tight. Apparently, the studs

Figure 1. Detail at the harness.

Figure 2. Over-all view of the home stand.

Figure 3. The working chair.

work through the hair to make contact with the skin; and at any given time, the monkey is in contact with at least one stud.

The general arrangement outlined above has been in operation for a number of months and appears to satisfy the purposes for which it was designed. The monkeys are readily accessible for drug injection, weighing, and safe-handling, yet are not unduly restrained. Moreover, they may be reliably and conveniently shocked if this method of reinforcement is required. Finally, several monkeys may be run in a single experimental set-up, with a minimum of time, cost, and personnel required.

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