

GENERAL SCIENCE

From the Winners' Reports

MUENCH WRITES

"Absence of cancers is insignificant, since the hamsters were kept on chicken diets for only a short time.

"Therefore, although a decisive conclusion cannot be drawn, the evidence seems to favor the fact that chemically sterilized roosters contain appreciable amounts of stilbestrol in their edible portions, perhaps enough to produce the aforementioned deleterious effects in human beings if consumed for a long period of time. It is acknowledged in making this statement that the hamsters consumed far more chicken per body weight per period of time than a human being would and that, of all mammals, human beings are least affected by stilbestrol. However, the possibility of stilbestrol being used to chemically sterilize other meat animals in the future must be considered in deciding the total possible amount of hormone a human being could ingest.

"The question remains unanswered. This paper merely contributes a minute part to the solution."

—From the report of Karl Muench.

BRADEN WRITES

"A. SELECTOR CIRCUIT METHOD

This method is based on the analogy between relay circuits and logical statements. The relay network which is analogous to a given expression is tested for an open or closed circuit for each of the 2ⁿ combinations of states of its n relays. If we put the results in tabular form, with an open circuit represented by 0 and a closed circuit represented by 1, we have a truth table for the given expression. Several specialized logical truth computers have been built recently using relay networks.

"1. Plugged circuit method.

(1) The contacts of the selectors are plugged together to form the analogous network.

(2) The selectors are put in each of the 2ⁿ combinations of positions by punched cards.

(3) The network is tested for a closed circuit by putting a constant digit impulse into one end, while the other end is connected to a print or punch magnet to record the results.

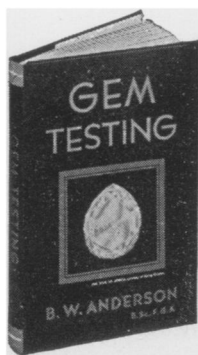
The comparing circuits of the tabulators are OR ELSE circuits already built into the machine, and can be used in the network for evaluating that connective. The comparing circuits of the collator can be used to evaluate the OR ELSE, IMPLIES, and ONLY IF connectives.

"2. Card-programmed method.

Instead of specifically plugging the plug-board for each problem, we can use a general plugboard and program specific problems by cards. Each program card computes one logical connective, and one pass of the whole deck evaluates the expression for only one combination of T. F. V.'s (truth—falsity—value) of the component propositions. One possible method which I have tried and found successful is to connect the machine as a general logical computer. It has a "memory" in which numerical T. F. V.'s can be stored; and an "arithmetic unit", in which any two T. F. V.'s selected from the memory can be combined by any logical connective."

—From the report of Robert Braden.

Science News Letter, March 15, 1952



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