

Physical Society. Radioactive phosphorus is one of the longest lived of the many elements which have now been created artificially by bombardment. Its half life is 14.5 days—which means that its initial strength of radioactivity diminishes to half in that length of time.

THE dizziness, swaying or airsickness that is caused when the semicircular canals of the ears are seriously disturbed can also be produced through training by the simple ringing of a bell, according to Drs. W. Horsley Gantt and H. Loewenbach, of the Johns Hopkins University. A mild electric shock passed through the ears will cause dizziness and loss of balance just as the rapid descent of an airplane might. The adjustment of the nervous system "is so delicate that the animal could be caused to fall in one direction by one bell and in the opposite direction by another bell, depending upon the direction of the passage of the current through the ears.

THAT intelligence is not confined to any single area of the brain's cortex, but is a function of the entire brain, is indicated by experimental findings presented by Professor H. M. Hildreth, of Syracuse University. Indirect methods must ordinarily be used to study the work done by different parts of man's brain, because it is not possible to take out one area after another to measure what functions remain and what are lost. Dr. Hildreth's study was made on those unfortunate persons who through the brain condition known as cerebral arteriosclerosis have had destroyed small areas of tissue throughout the brain. Comparing the achievement of 201 such brain-injured persons on several mental tests with that of an equal number

of "control" subjects matched with them on initial intelligence, Dr. Hildreth found that the deterioration of the brain-injured patients ranged all the way from zero to 90 per cent., according to the difficulty of the particular test. If the ability to pass a given test were dependent upon one particular area in the brain, the scattering of the brain injuries throughout the brain would have resulted in a corresponding scattering deterioration in test performance. Such scatter, Dr. Hildreth did not find.

SURGEONS performing muscle transposition operations to correct motor paralysis might find valuable hints in the motion pictures of reverse-action rats shown by Dr. Roger W. Sperry, of the University of Chicago. When these rats tried to rise upright on their toes, the toes swung up in the air and the animals fell back on their heels. When they lifted their legs in walking, instead of rising with the knee, the foot jerked downward and scraped on the floor. This complete reversal of all movements, both spontaneous and reflex, of the hind feet was due to an operation in which muscles operating the hind foot were transplanted so as to move the foot in reverse. Although the rats lived more than a year after operation and were subjected to training, none of them was able to readjust the reversed coordinations. The results are in accord with the views of some surgeons and physicians that re-education after muscle transposition, when possible, is extremely difficult and tedious. They indicate, Dr. Sperry said, a central nervous system organization of the motor patterns for limb coordination and the relative unplasticity of these basic central nervous processes.

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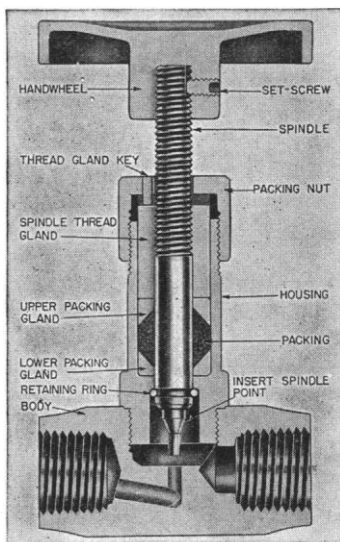
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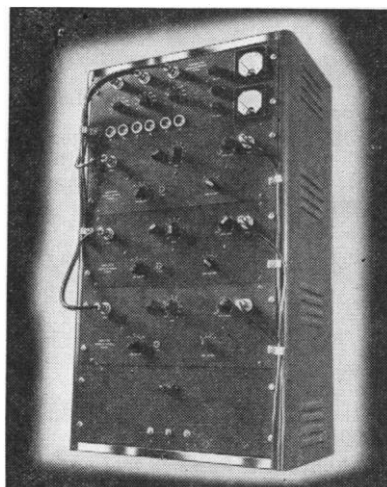


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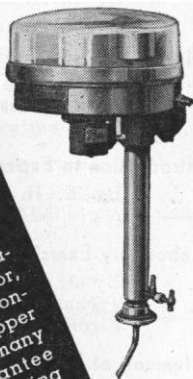
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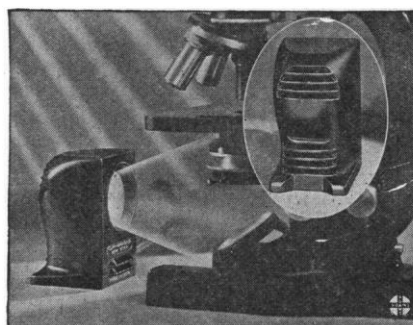
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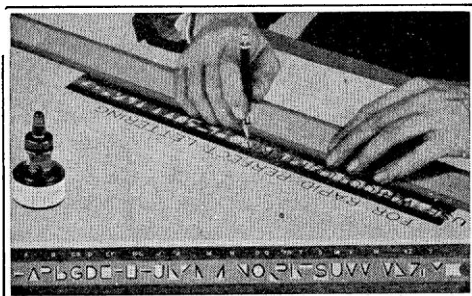
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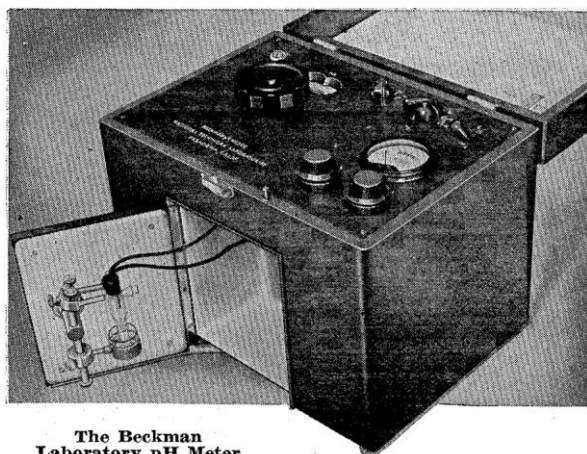
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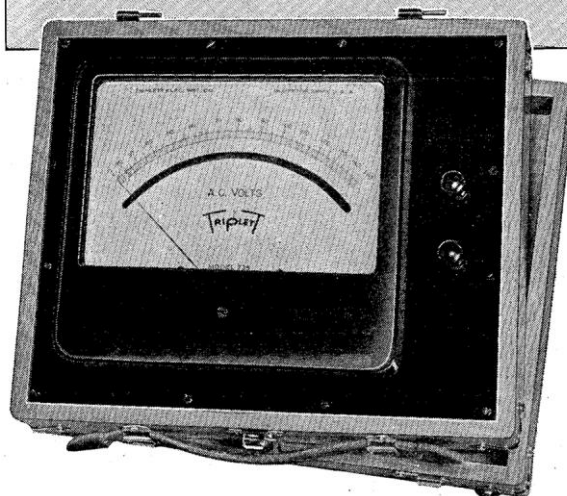
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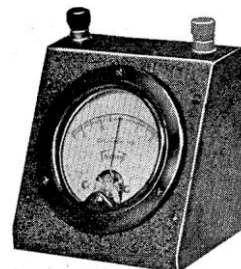
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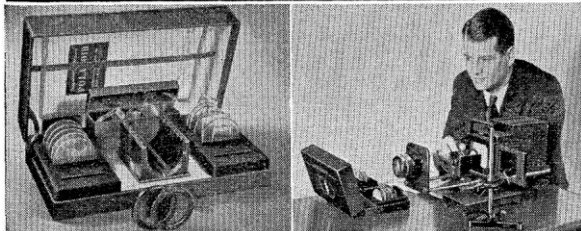
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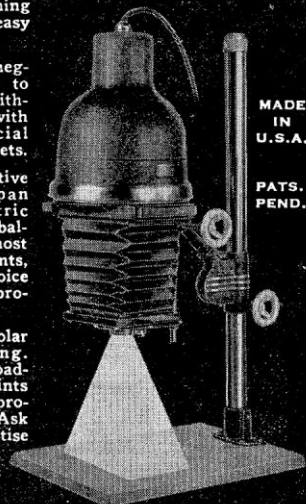
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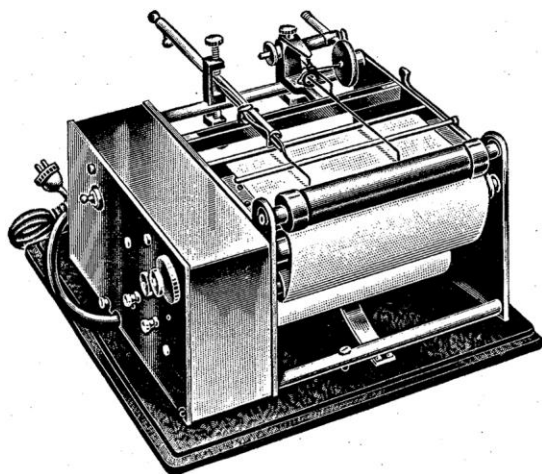
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