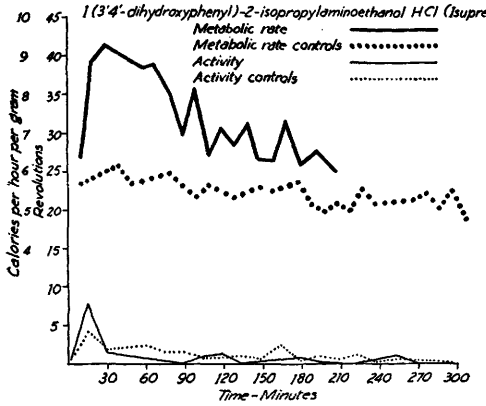

FIG. 4.

The effect of Isuprel on the metabolic rate and central nervous excitation.

than in the case of desoxyephedrine.

The effects produced by the d- and l-isomers of N-methyl-β-cyclohexylisopropylamine HCl are shown in Fig. 3. The d-isomer is more active than the l-isomer as shown by effects on both activity and the metabolic rate. All of the above-mentioned compounds show parallel increases in both activity and metabolic rate.

The injection of 1(3′,4′-dihydroxyphenyl)-2-isopropylaminoethanol HCl (Isuprel), Fig. 4, produces, if anything, a slight decrease in the activity of the normal animal. However, the metabolic rate is markedly increased, being even higher than that produced by dl-benzedrine. The animal is in a state of complete collapse and breathing rapidly. His heart rate is greatly increased, the peripheral vessels are greatly dilated and the temperature is elevated. The effect on the metabolic rate is clearly not due to movements produced by central nervous stimulation. This compound has been shown to have a relaxing effect on bronchiole spasm induced by pilocarpine and to markedly decrease the blood pressure.[7] The increased oxygen consumption is attributable in part to increased heart rate, respiratory movements, and possibly to increased tissue oxidation.

Summary. Comparisons were made between the oxygen consumption and increased movements induced by the central nervous excitatory effects of a number of physiologically active organic compounds. After injection of several of these compounds, benzedrine, desoxyephedrine and N-methyl-β-cyclohexylisopropylamine HCl, oxygen consumption and voluntary movements varied in direct relationship to each other. After the injection of another compound (Isuprel), oxygen consumption increased greatly, but there was a decrease in activity. Oxygen consumption can be used as a measure of voluntary muscular activity only under limited conditions.

[7] Lands, A. M., personal communication.

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17229. A Simplified Tissue Culture Technic.

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In a single chicken embryo, we find all that is required for preparing tissue cultures: the ingredients of the culture medium as well as the explant. Salt-glucose mixtures are replaced by amniotic fluid from the same embryo from which the tissues are obtained. An egg shell sector about 1¼ inches in diameter is cut out of the large egg pole on the 8-9th day of incubation, and the contents are poured cautiously into a Petri dish so as to avoid bursting the very delicate amniotic membrane. The membrane is then punched with a thin, sharp cannula and 2-3 cc of amniotic fluid are aspirated. The shell sector should not be larger than indicated, otherwise the amniotic membrane may be easily damaged. Only completely transparent fluid should be used; turbid fluids are mixtures of yolk and amniotic fluid and will inhibit growth. Tissue for explants is then cut out

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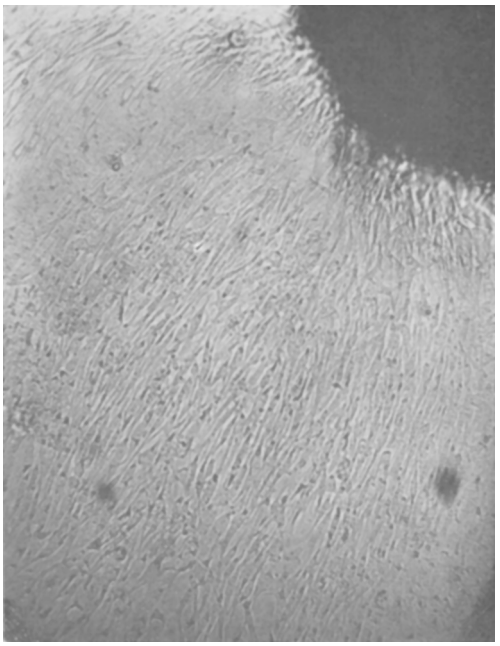

FIG. 1.
Photomicrograph of a living culture of chick embryo heart tissue cultured in embryonic juice and + amniotic fluid (1:1), all obtained from the same embryo.

and the remaining embryonic tissue provides the embryonic juice. The culture medium consists of embryonic juice and amniotic fluid 1:1. The excess of the amniotic fluid may be used for all purposes where saline or other salt mixtures are usually used, *e.g.*, washing of tissue, etc. The growth of cultures in this medium is not inferior to the growth of cultures in other fluid media. The cells are as normal in appearance as cells from a plasma culture (Fig. 1). Amniotic fluid not only replaces but also, in many regards, surpasses Tyrode's and other salt-glucose solutions in that it does not require sterilizing, filtering, or pH-adjusting. This liquid medium method may be recommended for cultures where the primary medium is to be removed for experimental purposes and replaced by other media. It is also convenient for obtaining growth of single cell layers for investigation in dark-field illumination, in phase contrast microscopy and in electron microscopy.

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17230. A Method of Obtaining Influenza Virus Growth Curves in Individual Eggs.*

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Growth curves of influenza virus propagated in the allantoic sac of embryonated eggs have been described by several investigators.[1-6] However, most of the studies reported have been based on results obtained with the pooled allantoic fluids of groups of eggs sacrificed at various intervals of time following inoculation of virus. Relatively little data concerning the characteristics of such curves in individual eggs are available. The use of pooled fluids has yielded valuable information as to the average rate and extent of virus multiplication and, with the aid of special technics, the step-like nature of the curves.[4-6] Growth curves in individual eggs should provide similar information, in addition to presenting a continuous picture of the growth curve in each egg. Recently Hoyle[5] has described growth curves of influenza A virus

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