also suggests that the salesman who has a noisy used automobile to demonstrate could make the noise appear less if he took the prospect out in it after his big meal of the day. This may also explain why dinner orchestras seem to favor volume to melody, but I doubt if this gives an esthetic justification for their choice of volume.

The practical acoustical worker can quickly verify the data which have been reported, and they would indicate that he will get finer measurements when the ear is used if he has eaten wisely rather than too well.

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TETRAPODS IN THE DUNKARD SERIES

LITTLE vertebrate material of diagnostic value has been reported previously from the rocks of the Dunkard Series of the Allegheny foothill region. Recently a Carnegie Museum field party, consisting of Eugene Burke, William Moran and the writer, discovered well-preserved tetrapod fossils in Dunkard sediments in seven distinct localities. Two of the collecting sites are located in Pennsylvania, the rest in West Virginia and Ohio. While few of the specimens have been removed from the matrix, the material thus far exposed indicates a diversified fauna of amphibians and reptiles. Several skulls and articulated bones have been uncovered, and it is anticipated that some of this material will prove new to science, while at the same time it may be the means of a more exact correlation of the Dunkard rocks, hitherto correlated on the evidence furnished by fossil plants and insects. It is planned to describe this material at a later date in the publications of the Carnegie Museum.

J. J. BURKE

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NOMENCLATURE OF CORPUS LUTEUM HORMONE

DURING the past year the progestational hormone has been isolated from the corpus luteum in pure form and its constitution established. Heretofore two different names have been used for this hormone in the literature (progestin, luteosterone). For the sake of international uniformity we agree to use hereafter in the scientific literature only the name *progesterone* for the pure hormone. As is known, the pure hormone exists in two different forms, one melting at 128° (uncorr.) and the other at 121° (uncorr.). The higher melting form (Compound B of Wintersteiner and Allen (1934)[2] and Compound C of Slotta, Ruschig and Fels (1934)[1]) will be known as α progesterone and the lower melting form (Compound C of Wintersteiner and Allen and Compound D of Slotta, Ruschig and Fels) as β progesterone. We hope that these names will be generally accepted in the scientific literature.

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SOCIETIES AND MEETINGS

THE INTERNATIONAL CONGRESS OF PHYSIOLOGY IN LENINGRAD[1]

THE fifteenth International Physiological Congress opened this morning in the central hall of the former Tauride Palace, now Uritsky Palace, after one of the early Bolshevik leaders who was assassinated in the summer of 1918.

In the great square hall, with its flat glass roof and terra cotta walls divided at regular intervals by huge white pillars, the 85-year-old Professor Ivan Petrovich Pavlov, Russia's foremost physiologist, rang a bell from the rostrum as he faced upward of 1,200 delegates from more than thirty countries, and declared the congress open.

Each delegate had earpieces and a little switchboard on his desk which enabled him to hear the speeches instantaneously in French, German, Russian or English, or to listen to the speaker direct in the language he was using. Professor Pavlov, who received a thunderous ovation, spoke with clarity and firmness that belied his age. He stressed the facilities given to the cause of science by the Soviet Government and declared it was the duty of scientists to strive not only for knowledge but for peace and mutual understanding among nations.

In his work, he said, is development toward the application to human beings, especially in cases of insanity, of the knowledge of conditioned reflexes that has been acquired by experiments upon animals. It must never be forgotten, he added, that physiology is not merely an abstract science but is intimately concerned with the functions of the human body, and thus is of vast medical and social importance.

Ivan A. Akulof, secretary of the Central Executive Committee of the U. S. S. R., welcomed the delegates

[1] Special cable to *The New York Times*, dated August 9, reprinted by permission.

[1] K. H. Slotta, H. Ruschig and E. Fels, *Berichte der deutsch. chem. Gesell.*, 67: 1270, 1934.

[2] O. Wintersteiner and W. M. Allen, *Jour. Biol. Chem.*, 107: 321, 1934.

on behalf of the Soviet Government and said that whereas in 1914 there had been twenty-four physiological research centers in Russia with a total personnel of 500, there were 380 centers with a personnel of 5,000. President Kadatsky, of the Leningrad Soviet, and President Karpinsky, of the Academy of Science, also made speeches of welcome.

The principal address of the day was then delivered by Professor Walter B. Cannon, of Harvard, who did not fear to inject what might be termed a political flavor into his scientific discourse. Amid applause he said:

"Nationalism has become intensified until it is tainted with bitter feeling. Creative investigators of high international repute have been degraded and subjected to privations. Our triumphs of the past have not been achieved by the workers of any single nation nor the representatives of any single racial group. As investigators we are inclined to be stanch individualists, but successful research requires a long-lasting program.

"In conditions of turmoil the career of the scientist investigator must be nearly impossible because of the pernicious influence of political adventures and their personal coteries. Governments that prevail under such conditions are parasitic; they make no new contribution of knowledge, but benefit from the knowledge gained by others."

Professor Cannon referred to the difficulties caused for scientists by the world depression, and said the Soviet was giving relatively greater funds for research than any other country in the world. His speech was vociferously applauded.

This afternoon the congress began regular work in the "House of Culture" in what is called the Vigorg section of Leningrad, where five large auditoriums were allotted for the reading of papers, which must be limited to ten minutes and are to be followed by five minutes of free discussion, with no translations.

Every delegate, however, received a full program of subjects in each room, a list of speakers and a précis of their talks. Stenographic reports of the proceedings are to be provided in four languages. The delegates are loud in praise of the arrangements made for them.

There are forty buses and 200 automobiles at their free disposal and the "Culture House" is a veritable museum of physiological exhibits, including models, charts and photographs.

The lectures and discussions in the auditorium will continue to-morrow. Sunday will be a rest day. Monday and on Tuesday morning there will be further lectures and discussions. A plenary session is set for Tuesday afternoon for a speech of Sir Joseph Barcroft, a professor of Cambridge University.

On Wednesday, Thursday and Friday there will be lectures and discussions. Friday night the congress will be transferred to Moscow, where on Saturday there will be a plenary session addressed by Professor Louis Lapicque, of the Sorbonne in Paris, and Professor Ukhtomsky, of Leningrad, who is one of the most picturesque figures of the whole congress. Of aristocratic birth and formerly of high position, Professor Ukhtomsky is full bearded and looks and dresses like a Russian peasant.

There is nothing narrow or nationalist in the Russian attitude. Indeed, Professor Ivan Pavlov, as president of the Congress, announced yesterday that lectures by Russian scientists must be delivered in French, German or English, instead of in their own tongue, to facilitate the communication of Russian work to foreign colleagues. This caused a hardship on some Russian investigators who are not familiar with foreign languages, but increased the liveliness of the ensuing discussions.

From a scientific viewpoint there seems little doubt that a centralized state-supported system of scientific research offers advantages that are lacking in countries that depend mainly upon private generosity or upon universities and hospitals which, however wealthy, have many other calls upon their funds. European investigators have long contrasted their lot with that of those in the United States, where great donations have been placed at the disposal of scientific research. Here even Americans are startled by the possibilities of research work on a national scale.

This applies particularly to such an abstruse science as physiology, in which much of the work done may have small practical value immediately yet where apparently "blind alley" investigation may suddenly reveal knowledge of vast importance to humanity.

For the first time in history the resources of a great state are being placed at the disposal of scientific investigators along paths they choose to follow, whether the results are distant or immediate, negative or successful. All the work done is being followed, coordinated and communicated throughout the country.

Visiting physiologists may in some cases possess better equipment, more competent assistants and greater ease of life but they are much impressed by the value—some are beginning to say the necessity—of national assistance to scientific investigations that must necessarily be prolonged and meticulous and may often bear little apparent fruit for a long period.

One of the effects of the congress is expected to be a strongly-reinforced demand of scientific bodies abroad for public funds to aid research and to disseminate the knowledge acquired.

Another thing that impressed the visitors is the re-

spect paid to science and scientists in the Soviet Union. Most of them were surprised by the warmth of their reception and by the fact that for the first time in the case of any visiting bourgeois group, except Ministers of State, there was a reception for the delegates of this congress within the exclusive ramparts of the Kremlin in Moscow.

WALTER DURANTY

SPECIAL ARTICLES

CRYSTALLINE PROGESTIN AND INHIBITION OF UTERINE MOTILITY IN VIVO[1]

SEVERAL years ago we[2] showed that the injection of progestin-containing extracts of the corpus luteum into post-partum rabbits caused complete suppression of the rhythmical uterine contractions usually found at that time, and also that the injection of oestrin into castrated rabbits while under the influence of corpus luteum extracts failed to induce oestrous motility. We were unable at that time to say whether the inhibitory effect of the extracts was due to the progestin or to some other hormone, since no attempt was made to study any fractions other than those known to contain progestin.

During the past year progestin has been isolated in crystalline form and its formula and structure determined.[3] Consequently, we have studied the effect of the pure hormone on uterine motility *in vivo* to determine whether or not it retains the motility-inhibiting factor which we have already shown to be present in the impure progestin-containing extracts.

The experiments were carried out in adult female rabbits whose sexual maturity was proved in most instances by the birth of one litter of young and in the remaining cases by ovulation following a single injection of pregnancy urine. Such animals were castrated and a uterine fistula prepared by transecting the vagina just below the cervix, closing the lower end and bringing the upper end through an opening in the anterior abdominal wall, where it was sutured to the edges of a small opening in the skin.[4] Several days after this operation they were given 100 rat units of Theelin, half intravenously and half intramuscularly to induce oestrous motility. Such injections have to be made because castrated animals such as these exhibit almost no spontaneous motility *per se*. The day after the Theelin was given a small rubber balloon was inserted without anesthesia into one cornu of the uterus and connected through a suitable air-water apparatus to a kymograph in such a way that the spontaneous uterine contractions could be recorded. A continuous record was then made of the oestrous type contractions for about one half hour. Progestin was next injected subcutaneously and the recording continued without interruption for 4 to 5 hours or until complete suppression of uterine motility had taken place (less than 1 hour with the larger doses).

Three different progestin preparations were used: The first was moderately pure (1 rabbit unit = 40 mgs) and the other two were crystalline, one the needle form and the other the prism form. (Progestin occurs in two polymorphous forms.) Both types of crystals gave combustion figures indicating the formula $C_{21}H_{30}O_2$, absorption spectra with a maximum at 240 mμ, and both had the same physiological potency when assayed by the Corner-Allen test for progestin.

We found that the impure extract caused complete suppression of uterine motility within 1 hour after injection when 1.2 rabbit units were given, 2 hours with 0.6 units and 4 hours with 0.3 units. Using the prisms, inhibition was obtained in 3¾ hours from 0.2 rabbit unit (0.26 mg) and in 2½ hours from 0.4 unit. Similar results were obtained when the other type (long needles) were injected.

These results indicate that there is no difference physiologically between the two forms of crystals, either form being capable of suppressing uterine motility, and further, since the pure hormone possesses the same inhibition capacity per rabbit unit as an impure extract, it is evident that both reactions, *i.e.*, inhibition of motility and progestational proliferation of the endometrium, are brought about by action of one and the same hormone.

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[1] Aided by a grant from the Therapeutic Research Committee of the American Medical Association.

[2] S. R. M. Reynolds and W. M. Allen, *Am. Jour. Physiol.*, 102: 39, 1932.

[3] O. Wintersteiner and W. M. Allen, *Jour. Biol. Chem.*, 107: 321, 1934; A. Butenandt and U. Westphal, *Berichte*, 67: 1440, 1934; M. Hartmann and A. Wettstein, *Helv.*, 17: 878, 1934; K. H. Slotta, H. Ruschig and E. Fels, *Berichte*, 67: 1270, 1934.

[4] S. R. M. Reynolds, *Am. Jour. Physiol.*, 92: 420, 1930.

A COLLOIDAL DYE EFFECTIVE IN TREATING PERNICIOUS ANEMIA AND EVOKING RETICULOCYTOSIS IN GUINEA PIGS[1]

WE have confirmed the observation of Massa and Zolezzi[2] that the intravenous injection of repeated

[1] From the Department of Medicine, Stanford University School of Medicine, San Francisco, California.

[2] M. Massa and G. Zolezzi, *Klin. Wochnschr.*, 14: 235, 1935.