TABLE 1

pH OF BLOOD SAMPLES

	Maternal peripheral vein	Maternal uterine vein	Umbilical vein	Umbilical artery
1†	7.36	7.36	7.31	7.22
2	*	7.34	7.34	7.29
3	7.38	7.38	7.32	7.24
4	7.37	7.34	7.31	7.24
5	7.39	7.36	7.31	7.27
6	7.34	7.32	7.31	7.22
7	7.40	7.34	7.32	7.25
8	7.39	7.39	7.35	7.28
9	7.42	7.42	7.31	7.27
10	*	*	7.30	7.25
11	7.37	*	7.32	7.29
12	7.37	7.35	7.34	7.30
Mean	7.38	7.36	7.32	7.26

* Unsatisfactory sample.

† In the first mother and fetus studied, the values obtained were respectively 7.36, 7.32, 7.01, and 6.98. The order of magnitude and range of subsequent observations indicate that these fetal values belong to a different universe of data. Intrauterine fetal embarrassment, in the presence of which Eastman noted similarly low fetal pH values, was not present. There is neither clinical nor technical explanation at present for the extreme deviation of this one set of data, and therefore, it is not included in the table.

were identified to the person doing the determination by number only. Two different electrodes were employed, one in a water bath, and the other in an incubator, each with a different galvanometer system. There was no difference in the mean or range of the 2 sets of values. Each system was sensitive to less than 0.005 pH unit.

The results are presented in Table 1. The mean pH of umbilical vein blood is 7.32, and that of umbilical artery blood, 7.26. These values are almost identical with those of Noguchi, obtained on infants at birth. It is, therefore, certain that the human infant in utero at term exists in a state of acidosis relative to its mother. This may not be altered by normal labor. Since the umbilical artery in utero carries a mixed arterial-venous blood, it is likely that the acidosis in fetal tissues at term is of a degree hitherto unsuspected and sufficient to affect gas exchange and alter metabolic processes significantly.

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Comments and Communications

Scientific Conferences and Papers

A COMMUNICATION by Paul F. Klens in SCIENCE (117, 112 [1953]) had some excellent advice on the preparation of papers for scientific meetings and their delivery. I add some comments and suggestions. Lantern slides should not have any details that cannot be read easily with the unaided eye, when held in the hand before a light. There should not be more than 26 lines of typed material single spaced, and a line should not have more than 65 letters or figures.

There is a curious expression of self-consciousness in the deplorable tendency to take rear seats and leave front seats vacant, thus adding to the difficulty of hearing a weak-voiced speaker and of seeing details in badly planned slides.

Local committees on arrangements often fail to consider the acoustic properties of rooms used for meetings. Voice amplifiers should be used in large rooms, if obtainable. It has been my observation that failure to provide them is often not because they are not available, but is simply due to thoughtlessness or negligence. When a microphone is provided, it should be used. It is silly vanity to scorn such devices, as often happens. A thoughtful speaker realizes that an audience will probably have one or more members whose hearing is not keen. Furthermore, a speaker is apt to overestimate the volume of his voice. His voice may not be so loud as he thinks or his articulation may not be good. In rooms seating one hundred or more persons, an amplifier is helpful, especially if there are street noises that enter the room, or if there is noisy apparatus in adjacent rooms.

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Adrenal Weight—Body Weight

IN connection with the third and fourth sentences of the paper "The Relation of Adrenal Weight to Body Weight in Mammals" by John C. Christian (SCIENCE, 117, 78 [1953]), I call your attention to our several publications on these relationships. My paper "A Comparison of Certain Gland, Organ and Body Weights in Some African Ungulates and the African Elephant" (*Growth*, 2, 335–346 [1938]), expressed these relations graphically on a log-log grid. It was shown that the equation $Y = bX^k$ is applicable.

A second paper, "The Scale of Being and the Power Formula" (*Growth*, 5, 301–327 [1941]), gave the b values for the adrenal gland resulting from the application of the above equation. That paper included adrenal data from the following: 167 reptiles; 220 birds; 1212 domestic, even-toed ungulates; 79 odd-toed ungulates; 86 carnivores; and 251 primates, mostly wild and exclusive of man.

In a third paper, "Brain, Heart, Thyroid, Adrenals and Habitat" (*Growth,* **10**, 15–23 [1946]), the power equation was applied to adrenal-body weight relations of 310 animals including tropical and subarctic rodents, carnivores, ungulates; white whales and porpoise.

In a fourth paper, "Studies in the Comparative Anatomy of the Endocrine System," the following log-log graphs of adrenal-body weights were included: Figure 1, Adrenal and thyroid—body weight relations for 112 reptiles; Figure 2, Adrenal and thyroid—body weight relations for 2709 birds; Figure 3, Adrenal and thyroid—body weight relations for 256 rodents; Figure 4, Adrenal and thyroid—body weight relations for 158 primates.

In addition to the above, G. W. Crile and D. P. Quiring published in the *Ohio Journal of Science* (**40**, 219–259 [1940]), "A Record of the Body Weight and Certain Organ and Gland Weights of 3,690 Animals."

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Treatment of *Cryptococcus neoformans* in Mice with Stilbamidine[1]

The observation of Elson (*1*) that certain pathogenic fungi were inhibited by low concentrations of propamidine has centered interest in the treatment of fungus diseases with the diamidines. This interest has been kindled by the discovery of the efficacy of stilbamidine (4,4′-stilbenedicarboxyamidine) in the treatment of blastomycosis (*2, 3*) and actinomycosis (*4*) and of propamidine (*p,p′*-(trimethylenedioxy) dibenzamidine) as an adjunct to ethyl vanillate (ethyl 4-hydroxy 3-methoxy benzoate) in the treatment of histoplasmosis (*5*). Infections due to *Cryptococcus neoformans* have remained resistant to treatment. The favorable response obtained in the treatment of other fungus diseases prompted use of stilbamidine in experimentally induced infections with *Cryptococcus neoformans* of the central nervous system in mice.

Mice were infected with *Cryptococcus neoformans* according to the method of Smith, Mosberg, Maganieillo, and Alvarez de Choudens (*3*). A 48-hr broth culture of *Cryptococcus neoformans* was centrifuged and then resuspended in 1 cc of physiologic saline. After the mouse was anesthetized with ether and the head prepared sterilely, the midpoint of a line drawn between the eyes and the external auditory meatus was found. About 0.2 cm to 0.3 cm above this point a 28-gage needle about 0.5 cm in length was inserted in a rotating fashion to pierce the skull and enter the cerebral cortex. About 0.05–0.08 cc of the suspension of *Cryptococcus neoformans* was injected, the latter being the maximal possible amount.

[1] Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

Four mice so infected died between the 8th and the 15th day. Fourteen mice similarly infected were treated with 100 mg/kg stilbamidine diiesthionate[2] in 5% glucose in distilled water intraperitoneally. All the mice died between the 6th and 16th day after infection.

Stilbamidine, 50–100 mg/kg, administered intraperitoneally, has been reported as the maximum tolerated dose for mice and it is stated that ¼ to ½ of this dose repeated over several days is usually well tolerated (*6*). The mice in this experiment received 100 mg/kg up to a period of 12 days, before death from the infection. This large dosage did not affect the course of the disease.

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[2] The stilbamidine diiesthionate was supplied by Merck and Company, Incorporated.

A Combined Method for the Rapid Fixation and Adhesion of Ciliates and Flagellates

In the preparation of protozoan slides, difficulty is often encountered in affixing the animals to the slide without distortion. The method described below eliminates the need of egg albumin and also the drying process. The whole technique takes only 15 seconds, and the animals are simultaneously fixed and attached to the slide. The method makes use of the fact that dispersal currents cause protozoa to adhere to the surface of a glass slide. Among the reagents that produce this effect are: Formalin, ethylene glycol, acetone, ether, chloroform, and the lower alcohols (methyl, ethyl, propyl, butyl, amyl) and some of their isomers. Though all these compounds cause adhesion to the slide, tertiary butyl alcohol yields best results. Ethyl and methyl alcohols may be substituted for tertiary butyl alcohol, but they seem to cause more nuclear distortion.

A mixture of the reagents given below will affix almost all the animals in a droplet of culture. No cellular distortion occurs and cilia, cirri, cytoplasmic