under the conditions mentioned, interferes with the tumor development of *D. melanogaster* (at least in two of the three stocks), showing properties which could, up to a certain extent, be compared with some mammal tumors.

In the present stage of our investigations, it is impossible to give an explanation of the results. The action of the drug could be direct on the tumoral tissue; or the effect could be indirect, through some endocrine gland of the insect or through the modification of a chain of reactions controlled by these hormones; or, last, the action could be through a general toxic effect which influences the neoplasmic growth.

We are now working on experiments designed to answer some of these questions.

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Pteroylglutamic Acid Activity of Aminopterin in *Tetrahymena geleii*[1]

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During the course of some experiments on the interrelationships of steroids with pteroylglutamic acid (PGA) in the ciliated protozoan *Tetrahymena geleii*, an attempt was made to reverse the action of the PGA analog aminopterin (4-amino-PGA). Contrary to what was expected on the basis of observations in other organisms, it was found that aminopterin possesses high PGA activity for *Tetrahymena*.

Since aminopterin replacement of PGA has never, to the authors' knowledge, been previously reported,[2] it was felt that these data are significant, in that they may help to explain the structural conditions in the PGA molecule necessary for PGA action *in vivo*. This is the basis for this preliminary report.

TABLE 1

RESPONSE OF *T. geleii* TO AMINOPTERIN*

Aminopterin added (mg%)	No PGA added	6.0 μg% PGA added
0	.036	.906
0.001	.052	.936
0.01	.780	.960
0.10	.888	.950
1.00	.960	.964
5.00	.886	.980

* Results shown represent optical densities of third serial transplant cultures.

[1] Supported by a grant from the American Cancer Society on recommendation of the NRC Committee on Growth.

[2] G. W. Kidder, of Amherst College, has kindly informed us of similar studies made in his laboratory, the results of which are now in press.

TABLE 2

COMPOSITION OF BASAL MEDIUM*

Solution B (amino acids)	14.0	ml%
Solution C (vitamins)†	6.0	"
Solution D (salts)	2.5	"
Solution E (salts)	0.6	"
Solution F (phosphates)	0.175	"
Solution J (purines and pyrimidines)	5.0	"
Glucose‡	0.5%	
Sodium acetate	0.2%	
Protogen§	2.0	
Tween 80	2.4%	
pH 7.0		

* The compositions of the solutions listed here are identical with those listed by Dewey *et al.* (*1*, 284).

† Solution does not contain PGA.

‡ Autoclaved separately and added aseptically.

§ Units/ml.

Results of a typical experiment are shown in Table 1. To obviate the possibility of PGA contamination of the aminopterin sample, the experiments were repeated with different aminopterin preparations. Results were essentially similar in all cases.

The ciliated protozoan *T. geleii* H was grown in pure culture. The base medium was essentially that of Dewey *et al.* (*1*), modified as indicated in Table 2. The organisms were grown in 50-ml Erlenmeyer flasks containing 5 ml of medium, according to the technique described by Hutner (*2*). All inoculations were made through a dilution flask containing only basal medium. Following inoculation, the flasks were kept at 25° C, and the cultures were harvested at the end of the logarithmic growth phase. Optical density of the harvested cultures was determined by the use of a Klett-Summerson photoelectric colorimeter with a green (#54) filter, following the procedure of Elliott (*3*).

From the data in Table 1, it is apparent that the addition of about 0.1 mg% of aminopterin equals the full effect upon growth of 6.0 μg% of PGA.

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3-(*p*-Chlorophenyl)-1,1-Dimethylurea—A New Herbicide

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In the course of a study dealing with materials having plant-regulating properties, 3-(*p*-chlorophenyl)-1,1-dimethylurea, a new chemical compound, has been synthesized and found to be very effective in killing many plant species. In greenhouse tests described in detail below, it has appeared particularly effective in killing both annual and perennial grasses.

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