gents the ability to cause intracellular sperm proteins to leak into the extracellular medium (*4*). We suggest that various cells and organ systems be screened for sensitivity of their cell membranes to permeability changes caused by chlorpromazine. The demonstration that tissues vary in ability to absorb this drug (*5*) provides a clue to which cell membranes may prove to be sensitive. If differential effects are shown, chlorpromazine may be used in combination therapy to increase accessibility of cell interiors to the second drug, and may be used as a laboratory tool for increasing the range of compounds which can reach the interior of the cell without resorting to complete cell breakage.

That cells can be made "leaky" without impairing their ability to reproduce has recently been shown (*6*). Preliminary data indicate that the site of action of chlorpromazine is a lipid. Cytochemistry and electron micrography will be required for independent confirmation.

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References and Notes

1. Experimental methods followed the general form of those described by M. Sanders and H. A. Nathan, *J. Gen. Microbiol.* **21**, 264, (1959). One simplification of technique substituted a growth medium composed of proteose-peptone (1.0 percent) plus glucose (1.0 percent) for the more expensive defined medium used earlier. It should be noted that organisms taken from cultures of different ages differ in sensitivity to chlorpromazine. Thus to obtain repeatable results it is necessary to fix rigid methods for cultivation of *Tetrahymena* with respect to physiological age of culture and conditions of cultivation such as temperature and amount of aeration.
2. L. Packer, *J. Biol. Chem.* **236**, 214 (1961).
3. We thank L. Packer, University of Texas, Southwestern Medical School, for performing this experiment.
4. T. Mann, *Proc. Study Fertility* No. 6, 41 (1954).
5. M. Berger, *J. Neurochem.* **2**, 30 (1957).
6. H. A. Nathan, *Nature* **192**, 471 (1961).

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Perseveration Factor

In their report, "Cerebral dysfunction and intellectual impairment in old age" [*Science* **134**, 1518 (1961)], Misiak and Loranger present a centroid factor analysis of seven tests showing a clear two-factor structure and then dismiss it with the statement, "The analysis yielded only one significant factor, a general intellectual one in which both critical flicker frequency and age have significant loadings." By the Bargmann-Bartlett test, the probability that one factor is sufficient is .029, while the probability that two are sufficient is .935, so actually both of their centroid factors are significant.

Table 1. Results of an oblique rotation of the centroid factor matrix from the analysis of Misiak and Loranger.

Variables	Factor *A*	Factor *B*
1. Critical flicker frequency	0.56	−0.07
2. Digit Symbol	.30	.48
3. Porteus Maze	.23	.38
4. PMA Reasoning (untimed)	.00	.72
5. Raven Progressive Matrices	.00	.71
6. WCST, perseverative errors, reversed*	.64	.08
7. Age, reversed†	.33	.08

* Freedom from perseverative errors.
† "Youngness."

An oblique rotation of their centroid factor matrix yields the pattern given in Table 1. In making this rotation we first reversed their 6th and 7th variables (WCST, perseverative errors, and age). Then lines ("hyperplanes") were passed through the centroids of variables 4 and 5 and 1 and 6. The factor pattern given in Table 1 shows the projections on the corresponding reference vectors.

Misiak and Loranger state that "it is tempting to draw similarities between conceptual perseveration and the neurophysiological perseveration reflected in flicker-fusion. However, the failure of the factor analysis to uncover a perseverative factor somewhat inhibits such speculation." The conclusion they wanted to draw but didn't is entirely justified by their data. All they needed to do to uncover a perseveration factor was to rotate their centroid matrix, as we have done in Table 1, to approximate simple structure. Factor *A* (Table 1) is a lack-of-perseveration factor, with high loadings on variables 1 and 6; intermediate loadings on 2, 3, and 7; and zero loadings on 4 and 5. Factor *B* is a reasoning factor, with high loadings on variables 4 and 5; intermediate loadings on 2 and 3; and near-zero loadings on 1, 6, and 7.

The cosine of the angle between the reference vectors is −0.50, indicating that the two factors are positively but not highly correlated.

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There appears to be no single infallible criterion of when a proper number of factors have been extracted. At least 25 different criteria have been proposed. In the present problem we employed Humphrey's rule [B. Fruchter, *Introduction to Factor Analysis* (Van Nostrand, New York, 1954)]. Computationally this is one of the more facile solutions, and correspondingly perhaps one of the cruder ones. The rule of thumb is that if the product of the two highest loadings in a column of the centroid factor does not exceed twice the standard error of a correlation coefficient of zero, the factor is probably not significant. In our problem the product was 1.29 times the standard error.

We are indebted to Cureton and his associates for applying to our data Bargmann's improved matrix formulation of the Bartlett test, a considerably more exact solution than that which we employed. The Bargmann-Bartlett test ordinarily is feasible only with an electronic computer. However, with our small seven-variable matrix, hand computation is quite practicable, as Cureton *et al.* have demonstrated.

Of course the factorial study was a subsidiary analysis. The principal objective was to relate intellectual ability in old age to critical flicker frequency. We were also looking for a perseverative factor, and the analysis by Cureton *et al.* uncovered one which had escaped our analysis. The discovery in the elderly of an apparent neurophysiological perseveration associated with conceptual perseveration is most interesting. However, we do feel that this finding is subject to confirmation with a larger battery of tests of intellectual ability than we employed.

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Visual System at Fusion

An error in our report entitled "Nonlinear property of the visual system at fusion" [*Science* **134**, 612 (1961)] has been communicated to us by J. Levinson (Bell Telephone Laboratories, Mur-