

The light cells continue to occupy most of the free surface of the epithelium. They develop domes and microvilli, characteristic of supporting cells in the adult olfactory mucosa. Some of the light cells continue to proliferate, thus providing for turnover of the supporting cells.

In summary, two cell types which appear quite different from one another and are segregated into different laminae

early in embryogenesis intermingle and differentiate to produce the neural and non-neural cells of the mature olfactory mucosa. This work has traced the development of a unique set of neurons and provides a clear case of the early establishment of two cellular lineages in a sensory receptor.

Reading list

1 Graziadei, P. P. C. and Monti Graziadei, G. A.

(1978) in *Handbook of Sensory Physiology, Vol. 9* (Jacobson, M., ed.), pp. 55-83. Springer-Verlag, Berlin

2 Monti Graziadei, G. A. (1983) *Brain Res.* 262, 303-308

3 Klein, S. L. and Graziadei, P. P. C. (1983) *J. Comp. Neurol.* 217, 17-30

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Letter to the Editor

We welcome comments from our readers. Short communications stand the best chance of publication. The Editor reserves the right to take extracts from the longer ones.

The importance of vasopressin in memory

SIR:

Gash and Thomas¹ do not really address the points raised in my recent letter to the Editor (*TINS*, March 1984)² when they question the use of Brattleboro rats as proper controls. They even admit that the results they obtained depended on the batch of animals used.

The inconsistent effects on avoidance behavior may indeed be related to the conditions of the experiment. All experiments should be carried out under strictly controlled conditions: this holds for biochemical, pharmacological and also for behavioral experiments. According to Gash and Thomas, this seems to compromise and probably invalidates the conclusions.

Gash and Thomas may be right in questioning the term 'memory', if indeed the effect of vasopressin and related peptides can be shown in aversively motivated responses only. We originally used the term 'resistance to extinction of active and passive avoidance behavior'. However, after many years of research on vasopressin we decided to use the term 'memory processes'. We did this because, as stated in my letter², vasopressin and related peptides had effects which corroborated the thesis that these peptides affected memory processes.

Gash and Thomas reject these arguments because some studies have not been independently confirmed. How-

ever, the thesis on which our concept is based is derived from a number of other studies performed by us and by others. I consider that vasopressin modulates memory processes because it has a long-term effect, the influence is time dependent, and it has an anti-amnesic effect.

In a recent letter to *Nature* my colleagues and I discuss peripheral versus central effects of vasopressin³.

References

1 Gash, D. M. and Thomas, G. J. (1984) *Trends NeuroSci.* 7, 64-65

2 de Wied, D. (1984) *Trends NeuroSci.* 7, 62-63

3 de Wied, D., Gaffon, O., van Ree, J. M. and de Jong, W. (1984) *Nature* 308, 276-278

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