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## Lectins

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service available to patients under the NHS by making the full range of drugs available only to those who are able and willing to pay." We are also concerned that the government's proposals are blind to the views and needs of patients and suggest: "Changes in prescribing will profoundly affect patients. The process of constructing a formulary needs to be linked with providing information and advice to patients about the changes proposed and a method of ascertaining and incorporating patients' responses."

Perhaps Mr Clarke and Mr Arnold consider it reasonable to distort the sense of our paper by ignoring its criticisms of government policy. This is appalling. However, I am most outraged by the government's relentless efforts to define the quality of medical care available to patients in terms of their ability to pay.

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### Lectins

SIR,—We were delighted to read Dr D L J Freed's timely leading article on lectins (23 February, p 584). He excellently summarised the historical development of lectins as biological tools but his account of their applications seems to us to be unduly biased towards the immunologists' viewpoint. Histopathologists too are increasingly aware of the potential value of these fascinating glycoproteins as histochemical probes.<sup>1</sup> This is particularly so as far as carbohydrate changes associated with neoplastic transformation are concerned. Studies of colonic neoplasia with peanut lectin have yielded interesting results reflecting incomplete glycoprotein synthesis by tumour cells.<sup>1</sup> Intensive lectin binding is also a feature of a variant of intestinal metaplasia showing a strong association with gastric adenocarcinoma as well as of gastric cancer cells themselves.<sup>2,3</sup>

The binding of wheatgerm agglutinin shows heterogeneity in breast carcinomas in contrast to the homogeneous reactivity of normal and hyperplastic breast epithelium.<sup>4</sup> This is related to tumour differentiation, and such heterogeneity also seems to correlate with the presence of axillary lymph node metastasis.<sup>4</sup> The use of two lectins with the same major sugar specificity can also show subtle changes in binding sites in carcinoma of the breast.<sup>5</sup>

Information from other epithelial sites is as yet rather limited but important information is now forthcoming from studies of endometrial adenocarcinoma.<sup>6</sup> Furthermore, the lectin *Ulex europaeus* agglutinin 1 binds specifically

to vascular endothelium. Its use can facilitate the detection of vascular invasion by tumour cells.<sup>7</sup>

Finally, lectins are also potentially useful markers for the investigation and classification of lymphoproliferative disease.<sup>8</sup> Recent lectin binding studies, for example, have supported the macrophage origin of the Reed-Sternberg cell in Hodgkin's disease.<sup>9</sup>

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SIR,—To the thorough review on lectins by Dr D L J Freed we should like to add their role in the skin. In addition to their well recognised mitogenic effects in lymphocytes lectins stimulate epidermal cell division both *in vitro*<sup>1</sup> and *in vivo*.<sup>2,3</sup> Lectins bind strongly to epidermal cell membranes<sup>4</sup> and two of them, concanavalin A and phytohaemagglutinin, are distributed on the cell membranes in the same pattern as pemphigus immunoglobulin.<sup>5</sup> The binding of pemphigus immunoglobulin is blocked by concanavalin A,<sup>6,7</sup> which implies that some of the concanavalin A and the pemphigus antibody binding sites are identical.

Cell separation may be induced *in vitro* by lectins as well as by pemphigus and pemphigoid sera.<sup>8</sup> We found that in guinea pigs phytohaemagglutinin also caused blister formation *in vivo* (figure). Lectin like molecules are widely found on cell membranes<sup>9</sup> and the

human glomerular basement membrane.<sup>10</sup> Lectin receptors and cell membrane lectins are therefore likely to be concerned in cell to cell attachment, and interference with these complexes in the skin results in blister formation. The role of lectins in the cause of some serious bullous diseases should be included in a review of their fundamental importance.

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### Any review is a good review

SIR,—Any review is a good review (16 February, p 547), but some reviews contain errors of fact. I thank you for the former and crave space to correct the latter. In "A test of loyalties" we did not tell Dr Erlam what to do when confronted by the managing director: he did what he did voluntarily. Of course Dr Erlam had the option of saying "This is a confidential matter, I can say nothing about Gilbey's health." He chose otherwise and we duly filmed and analysed what emerged. We would have done that whatever transpired between the doctor and the managing director.

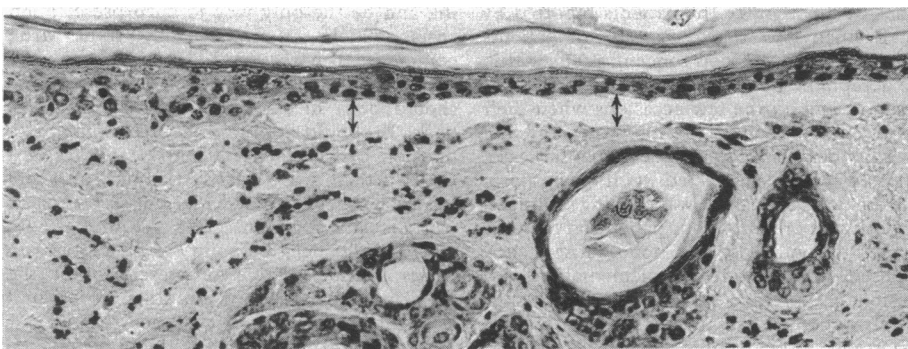
Dr Jerram misheard and therefore misquotes and misunderstands Larry Gostin. Gostin did not say anorexia nervosa was not to be found in the International Classification of Diseases. He said, correctly I believe, that it is not classified as a mental illness in the ICD. The distinction is clearly an important one.

Tut, tut Dr Forsythe, you are not keeping up to date with your journals. Yes, 25% of hip replacements are done privately if the *Lancet* of 14 July 1984 is to be believed. What an indictment indeed. Dr Forsythe also lets loose the "Ian Kennedy's antimicrobial prejudices" hare once again. March, I suppose, is the traditional time for the sighting of this mythical creature. When hard evidence for its existence is sought, the illusory nature of the animal is clear.

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Guinea pig skin showing bulla formation at dermoepidermal junction 24 hours after intradermal injection of phytohaemagglutinin ( $\times 360$ ).