broke up to a point just east of the hut. At the time of the calving the wind was blowing at 10 knots down the length of the tongue and a heavy sea was running from the north. The resulting 100-million tonne iceberg of 3.5-km length was last seen floating past McMurdo Base with our hut on it. The sea near the glacier tongue refroze on 10 March, emphasizing the short time available for calving since the sea ice last broke back to such an extent about 10 years ago.

We believe the tongue calved because of two factors — first, and most important, the break-up of the surrounding sea ice made it vulnerable to the action of the sea and laterally far less rigid; and second, the tongue was weakened by the presence of a sharp bay, forming a stress concentration at the reduced section near the edge of the sea ice. The heavy sea coming through the entrance of McMurdo Sound in the north pushed the exposed length of the tongue in a southerly direction until it broke at the sharp bay just to the east of our hut (see figure). We would expect the next calving of the Erebus Glacier Tongue to occur around the years 2020–30.

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What's in a name?

SIR—Cedergren *et al.* in their Scientific Correspondence recently documented[1] discrepancies in terminology for apparently homologous genes in different species of bacteria. This is a general problem applicable to comparisons of genes among all species, as in most instances genes have been conserved both in structure and function throughout phylogeny.

The need for standardization of gene nomenclature in man was recognized at the Fourth International Workshop on Human Gene Mapping (Winnipeg, 1977) which established a nomenclature committee to formulate guidelines for an international system of human gene nomenclature. The original guidelines[2] have been updated at each subsequent workshop, with the last complete update being published as part of the proceedings of workshop 9 (ref. 3). The catalogue of mapped gene markers from the Human Gene Mapping 10.5 workshop[4] will be updated in Oxford, United Kingdom, in September.

As part of its mandate, the nomenclature committee recommends on the symbols of all genes assigned to the human gene map. Since 1988 we have coordinated our activities with the International Committee for Standardized Genetic Nomenclature for Mice to ensure that homologous symbols are used for homologous genes in the two species. Pre-publication services are provided routinely to several human genetics journals, to McKusick's *Mendelian Inheritance in Man*[5] and its online version (OMIM) to disseminate information about the markers on the map to the scientific community.

The use of approved terminology for human genes also greatly facilitates the subsequent capture of data relevant to the human gene map by electronic databases such as the newly established Genome Data Base at the Johns Hopkins University. Investigators are urged to consult us before publication to develop gene symbols consistent with human gene nomenclature guidelines.

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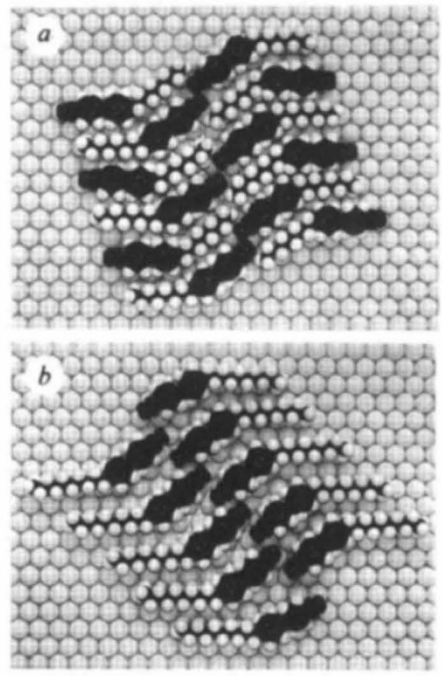
Surface phases

SIR—Hara *et al.*[1] have shown, using scanning tunnelling microscopy (STM), that the smectic liquid crystal 4′-*n*-octyl-4-cyanobiphenyl (8CB) forms a completely different structure when adsorbed onto MoS_2 to that on to graphite. This result is striking because on graphite the family of liquid crystals 8CB, 10CB and 12CB all adopt a similar structure, the double-row or 'bilayer' structure in which cyanobiphenyl head groups are positioned next to other head groups and the resulting rows are slightly less than two molecular lengths in width[2,3]. We have confirmed the result of Hara *et al.*[1] that 8CB on MoS_2 forms a single-row or 'monolayer' structure in which a head group always lies between two alkyl tail groups, resulting in rows approximately one molecular-length wide. But our STM results indicate a slightly different structure from theirs (*a* in the figure).

First, the structure is more symmetric — all heads and tails interdigitate. Second, we find the spacing between molecules to be 6.3 Å instead of 8 Å and



a, Model of 8CB on MoS_2 (the single-row structure) deduced from STM images of adsorbed molecules and the underlying substrate. The hydrogens in the alkyl tails register with the top-most sulphur layer. The molecules are separated by $2a_0$=6.32 Å and form rows of width $4\sqrt{3}a_0$=21.9 Å, where a_0=3.16 Å is the lattice spacing of MoS_2. *b*, Model of 10CB on MoS_2 (the double-row structure). The alkyl groups are all orientated to the MoS_2 lattice and are spaced $\sqrt{3}a_0$=5.47 Å apart. The biphenyls are spaced $2a_0$=6.32 Å apart.

the layer spacing to be 22 Å instead of 21 Å. We have measured the orientation of the underlying MoS_2 lattice to determine the registry of the molecules with the substrate, as was done previously for graphite[2]. The molecules are aligned along one of the MoS_2 lattice vectors, confirming the proposal of Hara *et al.*[1] that heteroepitaxial growth occurs. We have also studied 10CB on MoS_2 (*b* in the figure) and find it to form the same double-row structure as it does on graphite[2,3] but scaled to the larger lattice constant of MoS_2 (3.16 Å rather than 2.46 Å).

It is surprising that a change in the length of the alkyl group by only two carbons, from 8CB to 10CB, produces such a pronounced change in positional order on MoS_2. Why does 8CB form the double-row structure on graphite and the single-row structure on MoS_2? When lying flat, the biphenyl group is 5.9 Å wide, considerably larger than the 4.1 Å-wide alkyl group. The single-row structure therefore demands a separation between second-nearest-neighbour molecules of 10.0 Å. On graphite the closest packing that maintains registry with the substrate gives a separation of only $2\sqrt{3}a_0$=8.52 Å. The single-row structure on graphite would therefore require a separation of $3\sqrt{3}a_0$=12.78 Å, resulting in an inefficient packing structure with a high energy, because of the negative heat of adsorption