Fig. 1. Polygonization domains in rocksalt as observed on a cleavage face: (a) ordinary light; (b) Françon method of observation

chloride readily become polygonized after suitable heat treatment. We have bent small cleavage prisms of synthetic rocksalt under warm water and annealed them during 6 hr. (in a typical case) at 600° C. In order to produce a face suitable for observation, the specimens were cleaved again very carefully, following the two cube planes parallel to the axis of bending. The cleavage faces were then silvered and examined by means of a polarizing petrographic microscope. When using bright-field illumination at normal incidence, remarkably straight lines parallel to the axis of bending were faintly visible on both cleavage faces (Fig. 1a).

These lines are the boundaries of the polygon domains. They could be made much better visible using one of the methods of observation introduced by Françon[4]. The method consists in putting a Savart polariscope in the 45 deg. position in front of the objective. When working with crossed nicols, orientation differences are seen as colour differences in white light, and as intensity differences in monochromatic light. A step is seen as a narrow strip of different colour or of different intensity. Fig. 1b shows a cleavage face of sodium chloride observed by means of this method. The difference in orientation of the domains is now readily visible, and it is also evident that within a domain the cleavage face is flat apart from steps produced by cleaving. It was found that the dislocation walls are perpendicular to the slip vector $\frac{1}{2}[110]$, as is to be expected from theory[5].

It is now possible to measure accurately the orientation difference across a particular boundary as well as the local curvature, using one of the multiple-beam interferometry techniques introduced by S. Tolansky[6].

This work is part of a research scheme supported by I.R.S.I.A. (C.E.S.). I wish to thank Prof. W. Dekeyser for his interest and Prof. M. Françon for the loan of equipment.

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Multilayer Dielectric Reflecting Films at Wave-lengths between 4000 and 4600 A.

IN a previous communication[1], we gave some measurements of the performance of multilayer dielectric interference filters in the wave-length range 4000–4600 A. We are grateful to M. P. Giacomo for first pointing out that, in deducing from our results the properties of dielectric reflecting films, we failed to take into account the variation of phase change with wave-length, which has been treated by Dufour[2]. His results show that in our case the filters should have been considered not as of first order, but as of order 2·45. Our values of the reflexion, transmission and absorption coefficients for seven-layer reflecting films of cryolite and zinc sulphide on glass are then as in the table.

λ	4100 A.	4300 A.	4500 A.
Reflexion coefficient	0·956	0·958	0·960
Transmission coefficient	0·027	0·030	0·032
Absorption coefficient	0·017	0·012	0·008

Our conclusions that seven-layer dielectric films are superior to silver films as Fabry–Perot interferometer coatings at these wave-lengths still, however, remains valid. The 'effective number of interfering beams' for the former is about 95 at λ 4,200, which is more than sufficient to take advantage of the best-quality optical flats.

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Electrolytic Corrosion of Iron and Copper

IT is generally accepted that if cast iron and copper are coupled together in a brine solution, the iron, being the less noble member, is likely to suffer corrosion. The copper, on the other hand, will be made 'more negative' by contact with the iron and will be prevented in greater or less degree from corroding. The classical work on this subject was that of Sir Humphry Davy, and is well known to electro-chemists and to corrosion engineers.

A short time ago, I had an opportunity of inspecting a large cast iron vessel, used for heating brine, in the central region in which was fixed a system of copper tubes. After many years successful use, a considerable degree of corrosion had become evident on the upper ends of the copper tubes and end plate, and this apparently was of fairly recent origin. The conditions of use had not apparently changed, but it became clear that the cast iron in this vicinity had gradually become heavily graphitized. Experiments made on samples of copper coupled to graphitized cast iron in saturated brine solutions showed that surprisingly heavy currents could flow in a direction which made the copper the anode with considerable dissolution of this metal. That is to say, the graphitized cast iron was considerably more noble than copper, whereas normally cast iron is less noble. This fact does not appear to have been recorded previously, and if it is at all a general phenomenon it raises important considerations in relation to the coupling