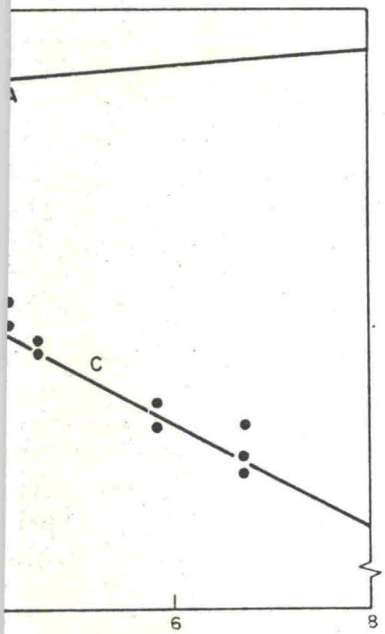
shows a comparison between
ctron model (b) of the three
er corrections and (c) of the
r corrections. The agreement
good although the extreme



(kb)

110] cross-section in Al. The points
ples). The lines represent theoreti-
surface; B, calculation based on 3
calculation. (From Melz, 1966b.)

s. For our present purposes,
alculation can explain some of
of the Fermi surface of Al.
ween experiment and theory,
ot lend themselves so readily

ct of pressure on some extrem-
f Pb and used their results to

estimate the variations with pressure of the appropriate Fourier coefficients of the pseudo-potential. They found also that model potential calculations correctly predicted the signs in the changes of V_{111} and V_{200} with pressure, although the magnitudes were wrong by a factor of 5 or so. They concluded that calculations using more exact forms for the potential were needed to make a satisfactory comparison between theory and experiment.

3. *Effect of Pressure on the Fermi Surface of Zn*

As already mentioned, O'Sullivan and Schirber improved their estimates of the pressure dependence of their S_2 cross-section by using a three-OPW calculation based on a model potential rather like Harrison's calculations on Al. Their model potential did not altogether agree with deductions made from de Haas–van Alphen data of the Fermi surface under zero pressure. They assumed, however, that it might yield reasonable derivatives for the purpose of calculating pressure coefficients. Their results agreed within a factor of 2 with their experiments.

There have recently been further measurements of In and Be and in general it appears that the pseudo-potential theory in its simpler forms can give at least a qualitative account of the pressure effects.

4. *The Monovalent Metals*

Considerable experimental work on the properties of the noble metals under pressure at low temperatures has been done, and so we shall first look at the effect of pressure on the Fermi surface of these metals before turning to the alkali metals.

5. *Experiments on the Noble Metals*

The shape of the Fermi surfaces of the noble metals is now well established by a wide range of experimental techniques (see for example Shoenberg, 1962, and Roaf, 1962).

The shape of the Fermi surface of a noble metal together with the first Brillouin zone is illustrated in Fig. 12. This shows that the Fermi surfaces of the noble metals touch the Brillouin zone boundaries on the hexagonal {111} zone faces. The area of contact increases in the sequence Ag, Au, Cu. The Fermi surface of Ag thus departs least from