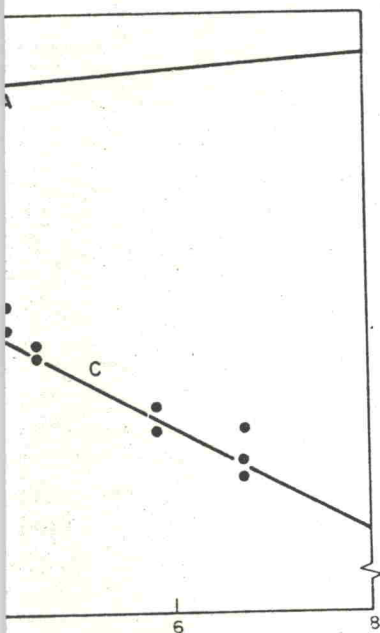shows a comparison between
ctron model (b) of the three
er corrections and (c) of the
r corrections. The agreement
good although the extreme

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

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

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

estimate the variations with pressure of the appropriate Fourier coef-
ficients 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 esti-
mates of the pressure dependence of their S_2 cross-section by using a
three-OPW calculation based on a model potential rather like Harri-
son'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 ex-
periments.

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 me-
tals 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