

Figure 42. Schematic diagram of shock-metamorphic effects produced in the Luna-16 material by meteorite impacts on the two types of source rocks observed. A single impact produces a wide range of deformational effects but tends to preserve original chemical characteristics. Subsequent multiple impacts affect more diverse target rocks, including previously-produced shock products. Continuing and multiple impacts therefore tend to produce more complex, heterogeneous, and mixed rock types which are common in both light and dark microbreccias. The dashed lines connect textural types produced by quenching of a melt, but whose origin as magma (primary) or as impact melt (secondary) is not clear.

ACKNOWLEDGEMENTS

I am grateful to J. A. Wood for his advice and encouragement; to M. G. White, for trimming the thin sections down for microprobe work; to A. S. Doan, Jr. and P. Comella, for rapid computer reduction of the microprobe results; to P. D. Lowman, Jr. and W. S. Cameron, for specific suggestions; and to Mary-Hill French, for considerable patience and for a critical review of the manuscript. Special thanks are also due to the many individuals in both the U.S.S.R. and the U.S.A., who contributed toward obtaining these samples and to making possible their exchange for scientific study.

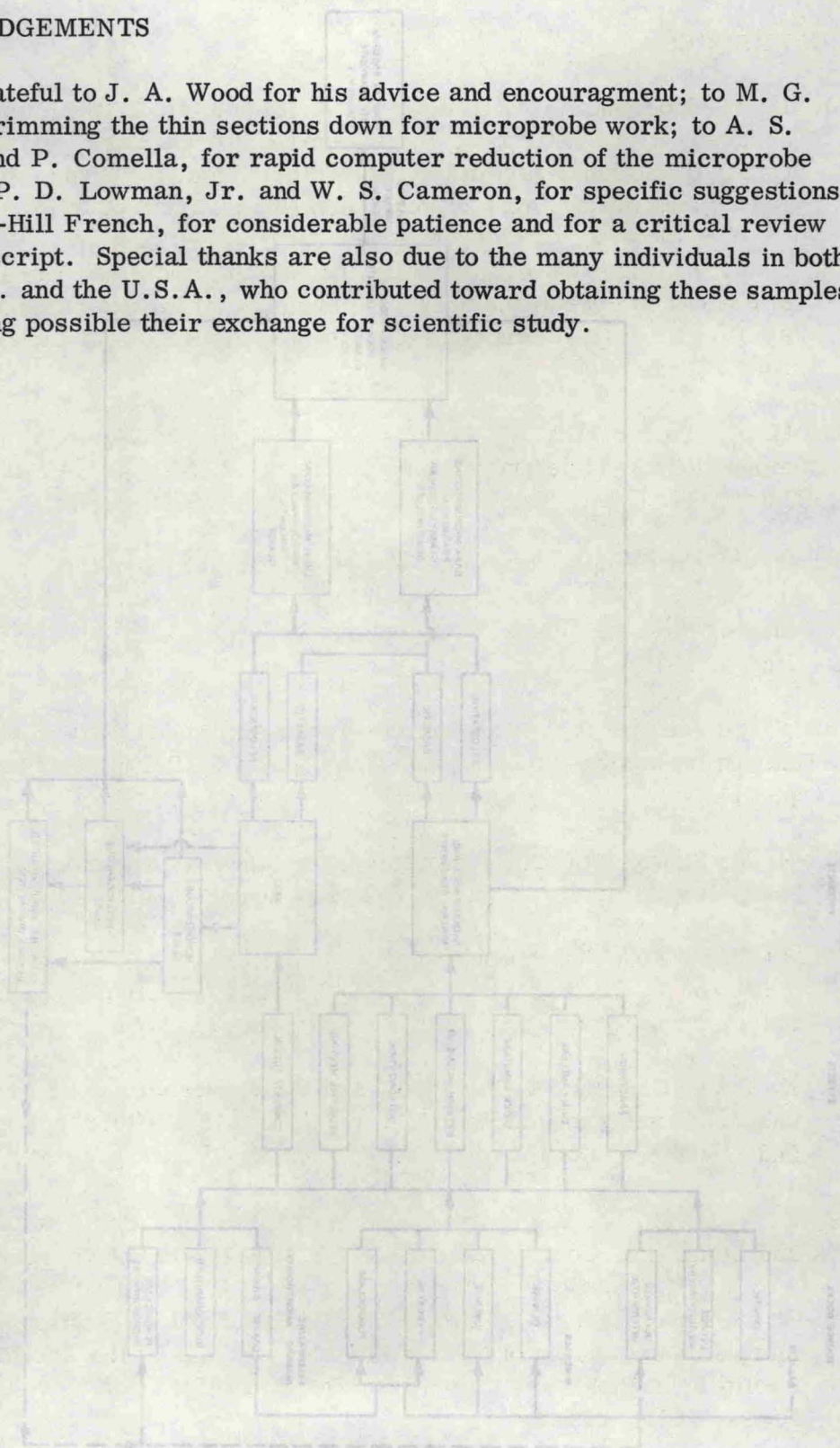


Figure 45