CONCLUSIONS

The theories proposed in this paper are incomplete. The main problem which requires investigation is whether one can obtain an infrared sensible theory without explicit Higgs mesons. One might expect, on physical grounds, that the infrared singularities induced by the gauge charges (color) are so strong that they must be completely shielded, so that only objects neutral under the gauge group could exist. This is an exciting possibility which might provide a mechanism for having a theory of quarks without real quark states. Whether this can be realized or whether the theory will exhibit dynamical symmetry breaking deserves much attention.

What we have achieved so far is to find a large class of asymptotically free theories. We have shown that all semi-simple gauge theories are in this class, as well as many theories involving fermions. We have explored the consequences of this asymptotic freedom with respect to deep-inelastic scattering and we have constructed some models which contain scalar mesons. Finally let us recall that the proposed theories appear to be uniquely singled out by nature, if one takes both the SLAC results and the renormalization group approach to quantum field theory at face value.