Again, this is only a special class of models which are exactly solvable. The theorem of *Friedan, Qiu* and *Shenker* implies that all local critical systems with $c < 1$ fall within this class of solvable models. Also independently, Andrews, Baxter and Forrester[26] described a class of exactly solvable two dimensional lattice models. Huse[27] found substantial evidence in the work of Andrews *et. al.* that their models at their critical points realize all values of c in the unitary discrete series.

Besides the application to critical phenomena, the main significance of the FQS theorem is that it showed the possibility of carrying out the two dimensional conformal bootstrap program incrementally for $c < 1$. It soon became clear that the classical string ground states are essentially the conformal field theories with the critical value of c, so that classical string theory is essentially a special case of the conformal bootstrap. Thus the FQS result indicated the possibility of using the $c < 1$ classification problem as a practical arena in which to study the more difficult problem of finding the classical ground state of string theory.

5. 1983-84

5.1 Conformal and superconformal invariance in string theory

In the summer of 1983 *Friedan* began to explore the relation between the two dimensional conformal invariance of string theory and the results of his thesis (see section 1.2 above)[28]. This was also being explored at about the same time by Lovelace,[29] Witten[30] and possibly others. The essential step was simply to juxtapose the existing results, by regarding the general nonlinear model of 2 as the functional integral for first quantized strings moving in a background gravitation field. Two dimensional conformal invariance was known to be the condition for unitarity in string theory[12,13]. *Friedan* discussed this in his Les Houches