Here are some comments which should help in the interpretation of Figure 1. The original negotiation of the treaty is thought of as determining the total number of time periods, and the maximum number of inspections to be allocated over them. Other parameters which are determined by the treaty are the detectability of cheating (r) and the penalty for detected cheating (K). Figure 1 shows the possible chains of events at the n^{th} last time slot when the inspector has k inspections remaining. Time slots can be thought of as numbered in descending order. The inspector's strategic variable is p, the probability that this inspection opportunity is selected, and the inspectee's strategic variable is q, the amount of cheating during this time period. When both inspector and inspectee have chosen values for these variables (which of course may depend on the number of time periods, n, and inspections, k, remaining), one of the scenarios shown in Figure 1 plays itself out, and the next time slot [the $(n - 1)^{st}$ from the end] is reached with new accumulated payoffs and, perhaps, one fewer inspection.

Appendix A details the analysis of this model, along with two possible extensions which have been investigated. These extensions concerned the introduction of a more sophisticated detectability function, and the incorporation into the model of concealment (camouflage) effort -- which would reduce detectability but also reduce the value of undetected cheating.

Table 1 is a good introduction to the results of the analysis. It contains the values to the inspectee [Table 1(a)] of all possible inspection problems with 5 or fewer time periods, i.e. $0 \leq k \leq n \leq 5$, when detectability r = 0.5 and the penalty K = 5.0. These are typical parameter values which were used a standard throughout this study. Notice that the value to the inspectee drops rapidly as the number of inspections increases. For example, if there are 5 time periods and no inspections, the inspectee cheats to the maximum at each time period, resulting in a total value of 5.00. If there is 1 inspection, the inspectee's value drops to 2.47, and if there are 2, to 0.90. As the number of inspections approaches 5, the inspectee's value approaches 0.00.

Table 1(b) shows how the inspectee's optimal cheating amounts also decline as the number of inspections increases. When there are 5 time periods, the inspectee's optimal cheating level is 1.00 when there are no inspections, 0.80 when there is 1 inspection, 0.45 when there are 2, and so on down to no cheating at all when there are 5 inspections. But as the number of inspections increases, the optimal inspection probabilities increase, as shown by Table 1(c). When there are fewer inspections than time slots, the inspection probability never exceeds a definite limit, which equals 0.40 for this standard example. The inspector's best strategy is to inspect with greater probability when more inspections are allowed, but the increase in probability is much less than proportionate.