The gist of the organized is more precise than the gist of the random.

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We can extract summary information (e.g. average size, orientation or color) about entire sets of objects without having precise information about individual items. If we have a set of lines, how does the organization of that set influence the assessment of the mean orientation? Displays consisted of 36 lines in a 6x6 grid. The "structured" displays were randomly sampled from larger fields of lines organized with 2D sinusoidal variations in orientation. Structured subsets were chosen so that the center lines were not reliable predictors of mean orientation. For each structured 6x6 display, a "jumbled" display was created by randomizing the positions of the lines. In Experiment 1, displays were shown for 300ms. Participants estimated average orientation by subsequently adjusting a test line to the perceived average. The average absolute error was significantly lower for structured displays (20 vs 25 degrees, $p<0.001$). Average error increased for both trial types as the variance of orientations in the display increased. The average signed error (as opposed to absolute) was not significantly different from zero in either trial type, indicating that participants did not have a systematic bias in their responses. In Experiment 2, we varied the display duration (100-500 msec). The benefit of the structured display persisted at all display durations. Furthermore, there was no significant effect of presentation time on average errors for either trial type, suggesting that this is a global process that does not benefit from serial scrutiny of individual items. As shown previously, mean orientation is extracted from displays very rapidly. The present results show that the structure of the field is extracted as rapidly and can be used to improve assessment of the mean.