

JOKE, PHILOSOPHY

# THE DATA MAY NOT CONTAIN THE ANSWER

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(stolen from <https://twitter.com/sTeamTraen/status/1361067408660783115> )

[John Tukey](#) (1915-2000), American mathematician best known for the Fast Fourier Transform (FFT) algorithm and the box plot

1. The data may not contain the answer. The combination of some data and an aching desire for an answer does not ensure that a reasonable answer can be extracted from a given body of data.
2. The data may not even contain an appearance of an answer, although we should look for appearances and then report them with adequate caution.
3. We must expect often to purvey appearances clearly labeled as such, rather than answers.
4. We ought usually to take our standard statistical (= confirmatory) task as assessing the minimum uncertainty to be assigned to the results found.
5. We can and should help our subject-matter-skilled clients with the assessment of systematic and other nonsampling errors to make the indicated uncertainty still larger; but we cannot often pretend to do the entire job ourselves.
6. Exploration, as purely a matter of seeking appearances, may need considerable aid from calculations, often rough, of minimum uncertainty. In the simplest cases, such rough calculations are built into our intuition. In more complicated ones, we must support our intuition with the results of numerical calculations.

