

On the emergence of scientific consensus.

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Abstract

The emergence of consensus is of vital importance to science; yet, I am unaware of any theory which has been developed along those lines. This paper consists out of an attempt to erect such theory.

1 Introduction.

The individual process a theory undergoes in order to acquire the status of a scientific one often appears to be chaotic and of a particular nature. What is less often debated, is the emergence of consensus about an interpretation of the available data; the latter can after all differ between several conscious observers especially when it concerns complex systems such as ordinary life forms. The aim of this paper is to posit some ideas and principles as to how such consensus should be reached in order to achieve the best theory possible to the extent that one can speak in such terms. These ideas are of a rather radical nature and are for sure not always applied in data analysis.

2 About observation and truth.

What is a wrong observation? Our mind can for sure make mistakes regarding the observation of an exterior “objective” quantity due to its own internal world. The only way to correct for such unvoluntary error is to rely upon something which is enduring or persistent such as the print of some recorded data by means of a computer. In the absence of such machine, the dispute remains and is usually ended statistically, a way which is also prone to error, by relying for example on the majority of “competent” observers. However, things become much more complicated when one deals with observations some people make and others don’t; in such case, it is much harder to define “competent” observers since there is no objective way to decide who is right and who is not. For example, suppose our observation consists in counting birds, then a competent observer is one who is good at it, meaning that his observations agree most of the time with those made by someone counting the birds very carefully using a picture made by a camera. On the other hand, when someone claims in the middle of a crowd that he has seen an angel, then one cannot assign competent observers to decide about it since angels cannot be prepared for observation. Now, many

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scientists therefore claim that the existence of angels is not a scientific matter since it does not allow for *free* verification: I disagree and shall explain carefully now why. Suppose only a portion *A* of society observes angels and that the remainder *B* sees nothing. Now, as long as the angels do not interact with *A and B*, then *B* cannot establish the existence of something *A* insists to be angels. For *B*, the existence of angels will be vacuous and therefore a matter of belief while for *A* it will be very real. So the only matter which remains is to choose between: (a) angels exist and *B* is numb for it (b) angels don't exist and therefore the brain or spirit of people in *A* differs from those in *B*. By no means do we say that *A* or *B* are delusional or ill, they are just different, that is all. Now, suppose the angels do interact with *B* on the wishes of *A*, then joint independent records of *A and B* can establish the existence of something for *B* which goes beyond its visionary perception. As a crude example, suppose that my spirit is making love to my ex-wife and she would see or feel something at that very moment which makes her think about (having sex with) me, then we both can establish the truth about some interaction which I perceive as me having sex with her. It may be that *B* participated in such experiment without being aware of it but that *A* alone can establish some correlation, then *A knows* angels or spirits are beyond his brain alone and in such case *B* has to accept that *A* speaks the truth without being able to establish this. Even stranger, it might be that *A* has gotten some proof but that the spirits suddenly remain silent for some reason; in that case, he cannot set up the experiment described above with *B*. In such case, *A* is said to have had an experience such as religious profets have had contact with God. Again, *B* can say *A* is lying (for some reason) or speaking the truth while *A* can say *B* did not have the privilege he had.

The point is that *A* and *B* must always remain respectful for one and another since a complete theory of the universe has to take the observations of *A* and *B* into account. It is just outrageous for *B* to say that *A* is delusional and for *A* to posit that *B* is inferior. Every gift comes with its advantages and disadvantages and *A* has to live with that.

3 Multiple theories and Occam's razor.

There are three different cases to be considered here; Type I corresponds to observations for which *A* nor *B* can establish some reality beyond himself, Type II means that (some) *A* know their supplementary observation to be real beyond themselves but that *B* has no conscious participation in this proof and finally Type III where *A* as well as *B* consciously cooperate to show some exterior reality behind the observations of *A*. Notice that the concept of truth here is dynamical and not fixed once and for all. In case of Type I, the standard procedure is to look for an explanation of *A*'s observations within the brain of *A*; if such a thing cannot be found, then it is mandatory to introduce extra variables which can explain for the assymetry between *A* and *B*. In this case, "angels" acquire some reality even if *B* cannot observe them directly. For Type II observations, *B* has to rely upon the good faith *and* accurate observations of *A* and therefore establish a theory with "angels", in all other cases *A* and *B* are in conflict with one and another and competing theories arise. In contrast to what is usually thought, one can still decide about some "truth" here by means

of Occam's razor; B still has to *explain* the observations or behavior of A and the maximally predictive and least harmful explanation usually wins. For Type III observations, one has to introduce new variables causing A to see "angels" and B to see nothing, there may be some dispute about the way this should be done but one has a (fairly strong) experimental guide. Type II is therefore the only one which leads to severe clashes and good faith in a person's honesty and competence is definitely needed here.

4 Other arguments in favor of A .

Of course, reality is still more complex than the above and one should speak about several populations C, D, \dots too. What arguments further strenghten A 's case? In case A types (a) share the same kind of observations and/or (b) can mutually think of an experiment in which observations coincide in some sense, then this at least strenghtens their case and supposing (b) holds proves the reality of some interaction even if B is totally numb. B acts here as a conscious observer regarding A 's records and acquires in this sense knowledge about the interaction, so Type II is kind of "unlikely" in the sense that B types never consciously observe at least *some* correlations between actions of various people including A types. I, for example, *know* some of my observations to be of Type III which doesn't imply I can freely reproduce them. As a general principle holds the larger A is and/or the more capable one is regarding free reproduction, the stronger is their case even if B constitutes a democratic majority.