

Factifuging

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“...he was systematical, and, like all systematic reasoners,
he would move both heaven and earth,
and twist and torture everything
in nature to support his hypothesis.”
(Laurence Sterne, *Tristram Shandy*).

Introduction

We have all listened with horrified fascination to the undermining or demolition of a sound piece of research – particularly when it is our own. We may sense that the arguments are false but be unable to detect wherein the fallacy lies.

Time and again in the short history of science, ideas that were "conclusively disproved" have later been recognised to be not only correct, but of stunning significance. The heliocentric theory of the immediate universe, the airplane, and even such trivial but useful inventions as the disposable diaper, were each in turn derided and shown to be impossible. It was only the faith of the bold investigator that enabled him to persist in the face of overwhelming evidence that what he was doing was logically and "factually" impossible. How many vital discoveries that might have benefited the entire world have been lost because the discoverer was not equipped to contend with the reactionary forces marshalled against him! The propounder of a new invention, technique, or hypothesis can almost invariably determine intuitively whether or not his idea is correct.

To help the oppressed author or speaker a list of some of the most successful techniques for defending the intuitively correct position against contradictory data, irrefutable logic, and opposite conclusions would be invaluable. This can be served by the Art of Factifuging [from the Latin: *factum*, act, deed, or "fact", *fugare*, to put to flight (e.g. *febrifuge*, *vermifuge*)].

Distracting Joking

A cleverly told story can draw the sting of many a serious attack. Some point in the counterattack should "remind me of a story". Members of the audience are left in a

favourable frame of mind toward the provider of the anecdote (which they may add to their own repertoires). More important, they are also left with the impression that even if the point of the attack still is evident, it really is something like the joke – and therefore not to be taken too seriously.

Individualising

When the mass of statistical evidence is so overwhelming as to be incontrovertible, you should attempt to set it aside rather than dispute it: imply that "All this may well be true but the case in point throws into question the usefulness of a statistical conclusion". You should then relate in considerable detail (and with a sense of awe at the miracle accomplished) the record of an individual case or experiment which confirms your own approach. If the manoeuvre is properly executed, the audience is left with the impression that there must be something wrong with either the statistics themselves or the use of statistical techniques in this particular instance.

Visual-aiding

Properly speaking this is not a separate technique, since it must be utilised as an adjunct to one of the other approaches but its importance warrants this inclusion. Visual-aiding has become popular recently, with frequent use of cartoons, simple bar graphs in colour, and brief movies of attractive secretaries, illustrating material which has little or no pertinence to the subject. In the mores of our scientific culture one always "suspends judgment" until the person attacked has had the opportunity to reply. The introduction of such inconsequencia forces the audience to defer a decision, in the expectation that the material being presented will ultimately be shown to have relevance. The longer the period intervening between the attack and the reply, the more likely that the strength of the assault will be diluted. Not infrequently, the very point of the attack is lost in following irresistible visual or auditory aids.

The negative side of this technique has not been purely accidental. It is based on the use of tables, graphs, or other figures which the attacker has previously published. Your selection from his articles of illustrations which are out of context, or unrelated to the point at hand, creates the impression that your antagonist is irresponsible, obtuse, or both. Also, presenting his material at approximately one-half of the original size, and arranging to have the slide slightly blurred, shows that he is a mere collector of data who cannot present his work clearly, and therefore is probably somewhat blotchy in his thinking.

Etymologising

To distract the audience by this technique, you take the currently accepted use of the word and show that it is derived from some related but different meaning.

For illustration, if the point of attack involves the concept of "personality", you can quite readily confuse the issue by pointing out that the word is derived from persona, the mask worn by Greek actors. Personality thus refers not to the true individual but to the

appearance or face he wishes to present to the world. Or take the word snob, an abbreviation of sine nobilitate (s. nob.), first used in reference to scholars at the English universities who were not members of the nobility. Thus, the conventional usage of snob as one who feels he is better than other people can be shown to "really mean" that it is one who feels that he is less accepted than others.

With the aid of a dictionary of word origins, you can become adept at showing that everything is either itself or its opposite.

Greeking

Greeking is by no means limited to the Greek language, although Greek and Latin form the backbone of this distraction. *Pari passu et mutatis mutandis*, there is always an expression to clarify your own *Weltanschauung*. This should not be overdone because, as Clauberg of Groningen has so aptly put it, "Entia non sunt multiplicanda proeter necessitatem". Currently, Russian folk proverbs and Japanese haiku are becoming popular. As with posttraumatic amnesia, the "shock wave" introduced by such unexpected, but apparently logical, foreign phrases not only disturbs the material which follows, but also upsets the acceptance of what was previously presented.

Apodicting

This is the art of issuing sententious statements which presumably are self-evident and therefore not in need of experimental data. If your opponent protests that the example you have used while individualising is atypical, you should apodictise to the effect that "it is the extreme which justifies the mean". By the time anyone has this figured out the point scored against you is lost, because "a reasonable doubt" has been raised as to the validity of the criticism. It is best to avoid clichés such as "figures don't lie but liars will figure", or "one should use a treatment while it still works", since these are likely to have a negative effect and convince the listener that the rebuttal is without originality, vigour or point.

A separate paper on "The Art of Apodicting" is in preparation. This deals in considerable detail with such techniques as the proteron-hysteron – e.g., "Don't put the horse before the cart", "Rolling moss gathers no stones", "I'd rather be President than right". Other sections deal with the identity phenomenon: "Don't make molehills out of molehills." "No matter what anyone says, medicine is medicine." The beginner should spend a few hours inventing relevant apodictive statement and memorising them, so as to have a basic supply available for his own specialty. The subject is too extensive to be done justice to in this essay – and to do it adequately we must do it adequately.

Diverting

Probably the major technique of distraction is to systematically lead the discussion away from a dangerous area. This you can do by saving a few of your most effective and telling points for the rebuttal, and introducing them with the remark "Now to deal with the point

that Dr. Itzenplitz has raised" – proceeding then to give your own material which is unrelated to the criticism just presented. It is always understandable that to develop your answer fully takes more time than was allotted to you, and "were there but world enough and time" you would successfully have answered the points that were raised – just as you succeeded in answering some of the points that were not raised.

Denigration

Neutralising and Anti-neutralising. The careful selection and insertion of certain key words, innocent in themselves, can have a most salutary effect. These words are designated as "neutralisers" because they serve to render ineffectual, meaningless, or to throw into question the phrase or sentence which follows them. Refer to the major point or procedure of your antagonist and insert immediately before his key phrase "reputed", "so-called", "presumed", "tempted", "supposedly", "claimed", and so on. At the same time, anti-neutralising words can be used in contrast, to strengthen your own argument, as in "the clear and incontrovertible evidence from our statistically controlled studies."

Mispronouncing. The obvious application is to proper names. If your antagonist has stressed the researches done by T. P. H. Smith you should then make reference to the work of "P.D.Q. Brown or whatever his name is", implying that the reference is remote and esoteric, and therefore carries little weight. You can also "mispronounce" entire experiments by beginning correctly with what was done, and ending very sketchily, saying "or whatever it was that he did", since it obviously is not a piece of work that any scholar of the subject would regard seriously.

Old Hatting. This type of denigration depends largely on the German literature, both real and imaginary. It is a known fact that the Germans have already done everything, and if a reference is not immediately handy it is always possible to refer to an article which must have been done, even though you yourself may not have seen it. There is always someone in the audience who will think he has read the article and will gladly furnish you with an author or a journal. It is well to have available a list of some of the more remote and discontinued periodicals, and occasionally it is helpful to refer to such apocryphal periodicals as the *Archiv für Giershift und Krankschaft*. With this technique, you can belittle what might otherwise be damning testimony by pointing out how this identical issue was raised 28 years ago by Herr Doktor X and successfully refuted by Professor Y.

Faint-praise damning. This is the rug-pulling technique whereby your opponent is complimented for something he has said or done, and as he drops his guard the knife is slipped in. For instance, "that was a wonderful idea and it is too bad that it was not just a little better implemented". Or "the instrumentation developed for this project is truly outstanding, and if the design itself had been thought through a little more, one might properly have called it a work of genius!". One of the neatest rejoinders is "everything you say is perfectly true and it is brilliantly put. If it were relevant to our discussion I would be in great difficulties, and for my own sake I am glad it is not".

Bibliographising

Pingponging. If there is a well-known study which is in contradiction to your own it is wise to mention this, as the audience may know of it already, or a discussant may bring it up. The reference should, however, be submerged in a ping pong rally. This consists of quoting one study on your side, then a study in disagreement, and then another study which agrees with you, and then to slip in the bothersome results. Follow by at least one more ping and pong, so that the impression is created that it is "just one more" investigation.

Pseudo-equalising. In the ping pong method just referred to there must exist at least rough equality in the number of studies pro and con. A serious problem is created when only one or perhaps two studies agree with you, and an overwhelming number disagree. In these circumstances avoid stating who is on what side and remark: "there have been excellent studies done by A, X, C, D, E, F and G but with conflicting results," or "there has been disagreement among investigators".

Designing Double-blinding. It is necessary to know both the positive and negative approaches. If the offending study has not been conducted with a double-blind design (even though it would have been palpably impossible to have done so) you are in the strong moral position of being able to say "this is an excellent piece of work but it is really only a preliminary run. If a double-blind study bears out the same results, we will have something to think about". The reverse is to bemoan the use of the double-blind study, since in addition to inability to match subjects (see Control-failing), the obviously artificial conditions which must be met to set up a double-blind study results in the loss of the important "natural" factors which would otherwise have emerged.

Environmentalising

An almost infinite number of inconsequential environmental factors are always overlooked in any experimental design and this provides an inexhaustible source of design downgrading. If you have any idea of the composition of the audience, an appeal can be made to local prejudice: the colour of the rats, perhaps before a Southern reactionary or Northern hi-fi liberal audience; failure to take into account that the animal might be suffering in an address before the antivivisectionist society; or "my friend who criticises so freely has failed to take into account what the citizens and soldiers endured during the siege of Leningrad (or the Black Hole of Calcutta, or at Valley Forge) and until he has taken this into account he cannot say that Russians (or Black Holers or Valley Forgers) are whatever he has said they are". No research can ever allow for all the uncontrollable factors which by a wild stretch of the imagination might be relevant – e.g., sun spots, hair thickness, or the mean annual rainfall in Nigeria.

Control-failing

So, too, there are always a multitude of things – e.g., hour of testing, height of the experimenter, room colour, which could have been controlled but are not. The art is to pick one uncontrolled factor with appeal for the local audience, and then to elaborate in great detail on exactly how such control is possible but add modestly that certainly the audience could provide a better design to control the factor, and certainly your antagonist himself could have done so if he had given the matter a little thought. Even when a brief explanation has been offered by the opposition as to why it did not control this factor, it is still safe to go into the details of how it should be controlled, thereby implying that it is much more important than indicated.

Scuttling The Subjects

Latent-overting. So far, this device is useful mainly if the subjects are classified according to psychological factors, or if psychological factors are relevant to the results. If the subjects are designated as white, healthy, heterosexual males, you can raise the question as to whether they may not be latent homosexuals. If the subjects are overt practicing Lesbians, you can raise the issue as to whether they are not latent heterosexuals. Passivity is obviously latent aggression, just as overt aggression is evidence of latent passivity. With this form of jujitsu you can often turn an apparent attack to the support of your own thesis. Now that latent viruses have been proposed as cryptic causative agents in cancer, the technique is acquiring wider usefulness.

Biassing. It is fortunate that the subjects have to be something. Whatever they are can always be used as the basis for raising a doubt about the validity of the work. For example, subjects have to be either volunteers or non-volunteers. In the former instance they are odd, since they volunteer to take part in the research, and in the second they are resentful and thus biassed, because they were forced to participate. They either have, or have not, reached a certain educational level; they either are, or are not, males; they must have reached a certain chronological age; they have to have been brought up in one or another part of the country. Whatever it is that they are, or are not, can be used as the basis for claiming probable or possible bias in their responses.

Uncontrolling. Just as the design of the experiment must always contain uncontrolled items, the same is true of the selection of subjects. It is quite effective to point out that neither the experimental design nor the selection of the subjects was completely controlled.

Statistising

This is a highly specialised field. Whatever statistical technique was used, there are always 20 alternative methods, each with its own particular adherents. If a technique was not used, obviously it should have been. If the technique was used, obviously it should not have been.

For instance, if multivariate analysis was not the method, then certainly some approach of this sort was needed to take account of all the factors involved. If multivariate analysis was used, everyone knows that this is a limited technique since it presumes regular distribution of the population, which is rarely, if ever, the case. Even worse, it does not provide a means of checking whether or not the distribution of the population is regular, so that the approach is based upon an unlikely assumption, the validity of which cannot even be tested. This field is so highly specialised that it is best to seek expert technical advice, to guard against being hoist with your own chi square.

De-Proving

After making suitable attacks along the way, you are sometimes faced with a set of results which have to be decontaminated. The specific variations depend upon the individual field and must be adapted to it. The following are primarily of use in the psychiatric area:

1. When successful results are used as empirical evidence for the correctness of a particular treatment (whether it be psychoanalysis or drugs) it can be argued that the treatment itself had something to do with the results, which were dependent upon the personality of the therapist". The influence imputed to him as an individual is something he would probably be reluctant to deny, but he would be forced to do so if he is to defend his treatment. He seldom does.
2. Whatever results were achieved came about because the patient wanted to please the therapist, and they bear no relation to the treatment.
3. It is the fact that the patient received treatment, rather than the treatment itself, which produced favourable responses. This might also be used on other occasions as an apodictic statement.
4. The patient only demonstrated a change of symptoms (or a repression of symptoms), and no basic "cure" occurred, nor was there a "real transformation".
5. The patient is not really better; he and the therapist only think he is better.

Fundamentalling

When it becomes necessary to derail the argument, fundamentalling is the technique par excellence, but it should be used only once in a given setting. When you are caught dead to rights, and it is important to have your opponent appear to be converted to your point of view, you offer a series of propositions which are irrefutable. Point out that you both believe in the value of good treatment, that you both are concerned with high intellectual honesty, that you are both interested in empirically demonstrating any theoretical conjectures, and that you may even be using the same kind of apparatus or technique. Ergo, you are completely agreed on fundamentals, and it is only some minor and adventitious detail which separates you from complete unanimity. In point of fact, your opponent actually agrees with what you are saying but has probably only expressed it somewhat differently.

The converse of this technique is valuable when a relatively unknown discussant has got hold of some nasty little fact, of which he won't let go, and which upsets your whole position. Then the argument should be shifted to a ground on which you are much stronger or where only opinion prevails. He has used subjects over the age of 35 and yours are all below that age; his graphs are made with red lines and yours are made with black; he has used a Zeiss microscope and you have used an American Optical Company model; hence, your fundamental approach to the problem is irreconcilable and as long as you disagree about such basic points there is really no object in even discussing the present fact, since it eventually goes back to much more important differences which would first have to be settled.

Nothing Butting

Koehler many years ago pointed out the existence of "nothing but" theories in which all phenomena are reduced to a basic theoretical postulate, with no demonstration of how, or to what degree. Thus, painting is "nothing but smearing faces"; hoarding money is "nothing but anal retentiveness", a desire to have a moment's quiet is "nothing but oral aggression". Any position opposing yours is "nothing but" another way of stating what you have already said, or something so monstrous as to be inconceivable.

Nomifying

Since we exist in a universe which is 99% inexplicable, we have retained our sanity by naming things which we cannot understand. This removes the terror and mystery from them so that they can be handled with contemptuous familiarity. The same service can be used to reduce the discomfort arising from information provided by your antagonist. Simply provide or invent a name which sounds as though it should be familiar, and no further explanation is needed. Rather than question the technique of collection, the methodology, or the data, you can also outinterpret the sceptic. If the statistics show an interesting piling up in a place which is counter to your thesis, it is incumbent upon you to point to this and say, "It is interesting to see this curious distribution – of course it is nothing but a 'Poisson shower'." If asked later what a Poisson shower is, you simply reply "a curious piling up of cases as was illustrated in today's data".

Desperation Dodging

These last four are counsels of desperation and it is hoped that the gentle reader will never be ungentled to the point of needing them.

1. Unconscious rejecting. -- The results are so disturbing to the person criticising them that he unconsciously rejects them. This very rejection proves how vital and correct the thesis is
2. Unquotable quoting -- Quote from an unpublished study, "the source of which I am not at liberty to divulge", since virtually nobody ever follows up such a statement.

3. Proceduralising. -- To appreciate and understand what has been done, it is necessary for the critic to be analysed (or lobotomised, &c.) since otherwise he must speak always as an outsider.
4. Moral Factifuging, like vermifuging, is an unpleasant but sometimes necessary task and it should be done with clean and sanitary techniques, and with the least possible destruction of healthy tissue.

Author's note. Appreciation is expressed to Dr. Herbert Spiegel, John Blair, Gilbert Cant, and others who contributed to this subversive effort. I hope that assiduous readers will be able to supply additional classifications and examples so that some future revised edition will be more comprehensive than this modest essay.