specify some 'System X' as an alternative to deterrence; that Salter's system would be acceptable to the powers-that-be; that all of the various and variously sited (including continuously and unpredictably moving sites) nuclear weapons are neatly divisible into "proportions" of "percentage" [sic] points) jostle for space with outrageous question-begging ("most of the caring and intelligent people" etc.), superficial play upon words (referring to some philosopher, Kenny), misuse of words (e.g. "logic", "proofs", "pseudopsychiatric"), tautology, double-think, self-contradiction and self-abasement before arbitrary authority (Churchill!).

'The Logic of Deterrence' and 'The Wisdom of Deterrence' are in fact the Pseudopsychology of Deterrence. It is a policy based not only upon a major logical fallacy (vide supra) but also upon an archaic, speculative, verbalistic psychology (as demonstrated by Dr Deary). By its very nature it springs from fear. But what exactly is it that inspires such terror in people that they would prefer "certain suicide" (Dr Deary's own words) and the destruction of humanity to life for all under a government controlled to a greater or lesser extent by the USSR (unlikely as this would be, even if we were to disarm)? What sort of human beings are they who would, whatever the circumstances, unleash nuclear holocaust upon their own kind-or even only threaten to do so?... Here is a psychological question, a psychiatric question, beside which all the problems dealt with in the College's Journal pale into insignificance.

For some more relevant statistics, Dr Deary should look at more recent American surveys. For example, in the year President Reagan was re-elected, half of America thought they would be safer if the US simply stopped trying to halt the spread of communism; 56% favoured an arms control agreement even if perfect verification were impossible; over 60% would have liked a unilateral freeze for six months; 84% thought it wrong to use a new weapon to bring the Rusians back to talk about arms control, with reference to the President and the MX missile. In this country, of course, opinion is moving even more strongly against nuclear weaponry.

For some more apposite quotations, Dr Deary should turn to Thucydides—"No one is kept out of war by fear"; or Edmund Burke—"No passion so effectually robs the mind of all its powers of acting and reasoning as fear"; or President F. D. Roosevelt—"The only thing we have to fear is fear itself"; or Earl Mountbatten on nuclear weapons—"Their existence only adds to our perils because of the illusions which they have generated. There are powerful voices around the world who still give credence to the old Roman precept—if you desire peace, prepare for war. This is absolute nuclear nonsense and I repeat—it is a disastrous misconception to believe that by increasing the total uncertainty one increases one's own certainty."

Although he admits that "we cannot assume that we can survive even one error in our system", Dr Deary does not attempt to deal with the whole problem of human error, which might easily lead to holocaust, or with, say, the effects of the West's introduction of first-strike nuclear weapons.

But surely to: "It is more likely that nuclear weapons are the crystallisation of system wisdom, albeit a deeply regrettable wisdom" and "Paradoxically, deterrence rests on the love of an administration for the safety of its own people"... defies belief.

That readers may discount my own personal bias, perhaps I should admit that, when I was a redundant bombaimer on the Staff of Air HQ (Disarmament), BAFO just after the war, I had a Russian batwoman.

J. EDWIN MACDONALD

2 (GF) Palmerston Road Grange, Edinburgh

'Psychoanalysis: Science or Nonscience' Dear Sirs

"Pooh began to feel a little more comfortable, because when you are a Bear of Very little Brain, and you Think of Things, you find sometimes that a Thing which seemed very Thingish inside you is quite different when it gets out into the open and has other people looking at it."

I have been following with interest 'Psychoanalysis: Science or Nonscience?' (C. R. B. Mathers) and the subsequent correspondence (K. P. Ebmeier and R. M. A. Brown). I agree broadly with the authors' conclusion but certain points need answering.

Popper's contribution to the Philosophy of Science cannot be underestimated and the author questions his stress on "falsification" as the criterion for Science. It has been often mentioned but it is worth repeating that Karl Popper saw refutation as a solution to the "problem of induction" which has plagued philosophers since Hume first raised it. Scientists, according to an empiricist, infer general truths from particular observations and experiments. Put simply, it is difficult to see how a finite number of observations can establish the truth of a general law which would be applicable universally to all cases in time. Popper tried to solve this by his theory of the logic of science. He concluded that the problem of induction was insoluble, but was equally irrelevant to the question of scientific knowledge. There is no logical path leading from observation to scientific laws. What is important, however, is not how the theories are arrived at, but the questions of how the theories are to be tested. Popper disputed that facts can ever conclusively verify a theory and broke away from the "verificationism" of the 'positivists' who assumed that the only valid proposition is one that is scientifically verifiable and value judgements and normative statements do not qualify as knowledge. Popper argued for a strict logical deductive reasoning and considered "refutations" of falsification as the essence of science. No amount of sightings of white swans would prove "all swans are white" but one sighting of black swans would refute it. Popper's solution has its critics and it has been pointed out that certain theories can be falsified according to Popper's criterion (e.g. Kepler's laws) whilst others (e.g. Newton's laws) cannot be falsified in this way, but can in some sense be confirmed by successful predictions. Biological sciences are not as exact as physical sciences but, in any case, a theory has to be "testable" for either "verification" or "refutation". This brings us to the problems of psychoanalysis. (The term is not clarified but presumably it refers to the Freudian and its neo branches). There is no doubt that it impresses by its "apparent explanatory power". It appears to be able to "explain practically everything.... you saw confirming evidence everywhere, the world was full of verification of the theory. Whatever happened always confirmed it." It is, as if aided and abetted by psychoanalysts, the whole society has become Freudian! Incidentally, Popper levels the same charges against the Marxist doctrine. The simple question is when can a psychoanalyst be wrong? Then there is the question of "good" verification and "bad" verification. The inherent circularity of the theory leads to "bad" practices like collecting favourable evidence and ignoring unfavourable ones. Ad hoc "auxiliary hypothesis" is added on to the pre-existing one in order to explain anything new. The interpretations and predictions are "sufficiently vague" to destroy the "testability" of the theory and it ends up overdetermining the data.

The author's suggestion that "transference" could be akin to the problems of subatomic phenomenon in quantum physics, though interesting, does not lead us any further. Arguments by analogy infer that, because "this" is like "that" in some respects, "this" and "that" must therefore be similar also in others. As deductions such conclusions obviously do not follow. Here I agree with Rachel Brown; the onus is on the psychoanalysts.

Two related matters also deserve comments. First—do we have to subscribe to the rational/empirical model of science? Does a theory have to be amenable to objective and quantitative analysis? Is "sense" not a sufficient criterion? Some sociologists, perhaps understandably, take this antiscience view. In such a case, any theory is as good as the next plausible or one any other system of belief. This view finds an echo in Feyerabend who considers Western Science as simply a "dominant ideology". This has been called "an extreme form of epistemological relativism" which carries its own seeds of destruction. For if "all truth is relative to a given world view and cannot claim objective correctness, then this must apply to the *truths* which the relativist himself claims to profound". Such a self destructive claim is also applicable to psychoanalysis because "if all judgements are

determined by unconscious forces, and this makes them in some sense suspect, then this must apply to the judgement of the Freudian himself".

The second matter relates to that part of human "existence" (as commonly understood) which existentialists believe cannot be made a subject of objective enquiry. Such aspects can only be felt or understood by empathy, and this point is discussed by Ebmeier. Existentialism is a philosophical attitude as distinct from a particular system. Surely any transcendental or intuitive knowledge is a fore-runner of reason and there is no reason to suspect that "erklaren" and "verstenen" are mutually exclusive. In psychoanalysis the empathetic understanding goes beyond the root meaning of the words, beyond the contexual/connotative meaning to arrive at utterly deterministic metaphors. These hazy concepts then become the connotative meanings.

The traditional scientific model has evolved from a simple polarity into a more sophisticated interactive model of multiple interlocking determinations. For psychologists interested in a cognitive approach, the central concern is how the uptake of new information is influenced and partly directed by the existing knowledge (in term of memories). Research on text analysis has proved a useful paradigm for the cognitive studies in general. The psychological reality of psychoanalysis across different cultures is hard to see unless it is adopted (or internalised?!) as a faith. The "obviousness" is relegated to the web of symbolism which can inspire an artist with its new language but does little for its scientific credibility. For psychoanalysts, the problems of testability and "good" verification (if not refutation) remain. How can the interesting metaphors of Freudian talk be translated into something more testable? Does calling subconscious a partly accessible memory improve matters?

Otherwise, like Winnie the Pooh, it will still all be very impressive and it will make sense but it would be non-scientific.

RAJ S. SHIWACH

Department of Medical Genetics Churchill Hospital, Oxford

REFERENCE

FEYERABEND, P. (1962) Explanation, reduction and empiricism. In Minnesota Studies in the Philosophy of Sciences (eds. H. Feigl and G. Maxwell). Minneapolis: University of Minnesota Press.

Correction

An error was printed in the letter from Dr S. A. Wilkinson on defence association subscriptions (*Bulletin*, December

1986, 10, 362). "Full sessions" should have read "five sessions".

The Editors request that contributions to the Correspondence section be typewritten.