

## SCIENCE'S COMPASS

been going on for decades. I see no reason to believe that mere data should cause it to change.

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Citing the disappointing results of tests of the novel Merck compound and the recent Agency for Health Care Policy (AHCPR) meta-analysis which indicated the similar efficacy of the new selective serotonin reuptake inhibitors (SSRIs) and the older tricyclic antidepressants (TCAs), Enserink suggests that there may be no value in active treatment for depression. There are several problems with this presentation.

The full AHCPR report is not yet widely available. News reports have emphasized the similarity of TCAs and SSRIs in efficacy, with both classes of drugs said to be better than placebos. They have not discussed the differences in the side-effect profile. The newer drugs are less sedating, do not produce weight gain, and have less potential for lethality with overdose.

There are several clinical trials showing the efficacy of psychotherapies developed specifically for depression that are more efficacious than controls or placebos, or both (1). Psychotherapies are important alternatives to medication. Women of child-bearing years are the highest risk group for depression and often can not take medications during pregnancy and lactation (2).

Patients in any clinical trial receiving placebos are not receiving "no treatment." They receive a full psychiatric evaluation, a chance to talk about their problems, and regularly timed assessments of clinical status with a mental health professional. Even brief psychological attention can have an impact on the course of an illness (3). Some portion of the psychological attention effect is captured in the placebo control group. The dismissive slant of Enserink's article, if accepted, could lead to further undertreatment of depression.

The answer to "Can the placebo be the cure?" is "not very well." There are a range of new drugs and psychotherapies for depression whose efficacy has been established through controlled clinical trials. They are better than no treatment and even better than placebos in reducing the symptoms of depression.

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When my colleagues and I researched psychopharmacologic agents in the 1950s, it was abundantly clear that this was an enormously complicated area requiring the development of research methodology to clarify the issues and to tease out the many elements at work. We concluded that it is best to think of a range of nonspecific factors to account for the response to a medication (which can be both positive and negative), rather than speaking of a placebo reaction or a placebo reactor as an explanation. There has been an enormous amount of research on nonspecific factors in drug research, particularly in psychopharmacology. It is worth noting, also, that depression is a fatal disease in the 15% or more of its sufferers who commit suicide.

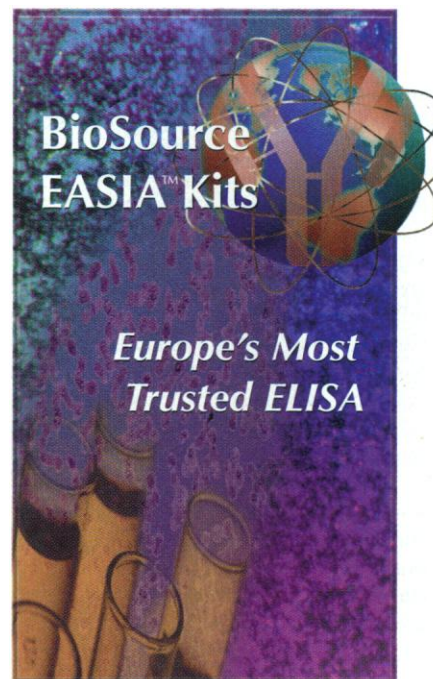
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## The Physician-Scientist Template

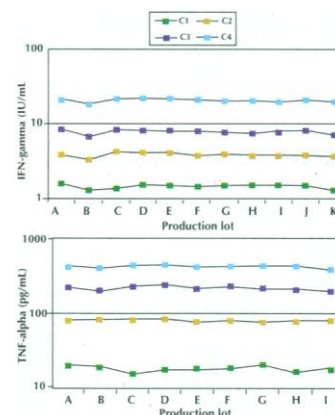
In a letter by David A. Hume (*Science's* Compass, 2 Apr., p. 49), it is alleged that physician-scientists are no worse off than "harried university professors trying to balance research with increasing teaching and administrative responsibilities," and it is further questioned whether there is in fact evidence for a decline in disease-oriented research. Additionally, the point is raised that disease-oriented research is increasingly being done by "full-time professional scientists" and that this effort not only should offset any decline in such research done by physician-scientists but that the "professional scientist" template is the most desirable one with which to carry out disease-oriented research. All told, the implication of the letter is that there should be little concern about the decline in physician-scientists.

But perhaps we should back up. First



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and foremost, it is essential to appreciate the fundamental differences between "professional scientists" and physician-scientists, not only in terms of training and responsibilities, but in terms of the balance of research carried out by each group. For example, the vast majority of physician-scientists have significant clinical responsibilities *in addition* to teaching and administrative roles, each of which is an integral part of academics. Further, although "professional scientists" are indeed making substantial contributions to biomedical research, they constitute a distinct minority of those performing disease-oriented research. The majority of "professional scientists" ask important basic research questions, but rarely translate this work to clinical situations. Assuredly, without a sound understanding of clinical issues (that is, clinical training), how does one ask the appropriate questions? Until we all appreciate these issues, misunderstanding about physician-scientists will continue.

Notwithstanding, this discourse raises a number of central issues regarding the role of the physician-scientist. Perhaps the most critical is the following: Is the physician-scientist template essential, or even important, for biomedical research? If we

look at past history, major advances in understanding the pathogenesis of disease as well as implementation of therapies targeted at specific diseases have stemmed in large part from disease-oriented research performed by physician-scientists. It would be highly desirable to develop meaningful partnerships among all types of investigators, including physician-scientists, basic scientists, and clinicians; currently, however, because of the very nature of the infrastructure of biomedical research, this rarely occurs. Once and for all, the leadership in science, academics, and the biomedical research community should address the question of whether the physician-scientist template is one worth preserving. If it is, then it is time to invest. If it is not, then we will carry on with Darwinian evolution in biomedical research.

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### The "Proboscidian Concept"

The article "Restorers reveal 28,000-year-old artwork" by Michael Balter (News Focus, 19 Mar, p. 1835) points to the discovery of new cave paintings in the Grande

Grotte at Arcy-sur-Cure, Burgundy, France. One of the presumably Gravettian paintings found in 1997 is a remarkable red-ochre-based mammoth (1). C. and D. Montchamp have since photographed an amazing engraved elephant executed by a San artist in the northwestern Namibian desert. The stylistic similarities between the Gravettian painting and the San engraving are quite astonishing (Fig. 1). Both have a hyperbolic dorsal line which lacks the cervico-dorsal disruption typical of mammoths and includes the upper tracing of a rigid, straight, sharp-pointed trunk, a pair of short tusks, a short, straight, horizontal tail, and a bulky body as tall as it is long.

They also differ from the pictures of the ventral-arched mammoths in several caves in southwestern France, which could be culturally related (2). While the resemblance is irrelevant to either cultural affinities or chronological proximity, it nonetheless indicates that the Arcy and San artists were capable of similar mental projections of the "proboscidian concept." Despite the differences in technique and surface, and the considerable spatial and temporal distance between them, the two representations obey very similar stylistic conven-

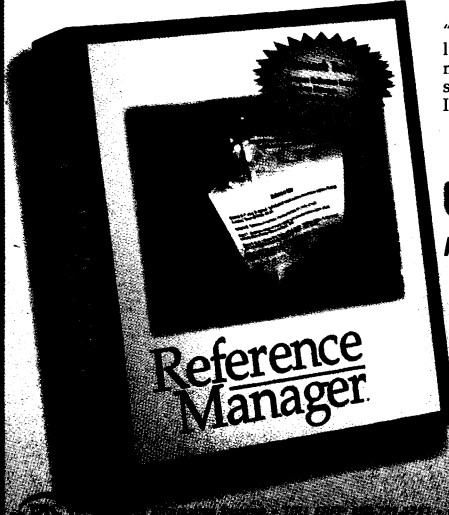
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