(Kappa = .33) and that for reading exercise cardiograms for potential bypass surgery equally poor (Kappa = .30). These are not isolated findings in other fields of medicine.

Unfortunately, diagnosis in psychiatry, and in the rest of medicine, depends on complex clinical variables. There is no "quick fix" to completely eliminate variability in clinicians' judgements. The best that can be done is to face the problem squarely, as psychiatry is now doing.

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Response: We agree with Spitzer *et al.* that diagnostic unreliability in psychiatry is longstanding, organized psychiatry is devoting considerable effort to the problem for the first time, there is no quick fix, reliability remains problematic, and it is best to face these problems squarely. More expert witnesses might follow Spitzer *et al.*'s lead by freely admitting these points and thus, too, facing the problem squarely.

Recommendations for revision had no bearing on the main topic of our article, the current status of the expert witness in psychology and psychiatry. The reader might consult an article by one of us (D.F.) (*1*) which details one major requirement for adequate revision—scientific advance that provides the needed knowledge base. We also offer a specific recommendation here: For most specific categories in DSM-III and throughout DSM-III-R, formal reliability trials were not conducted and reported before revisions were introduced. This should be done the next time.

Grove's comparison (*2*) of numerous reliability studies along a common metric (Kappa) raises serious doubts about claims for significant improvement. Where data were available across systems and common categories, the DSM-III showed only a slight overall advantage over earlier systems; whether DSM-III-R fares differently awaits adequate study. Even if one posits significant improvement, according to Spitzer *et al.* reliability remains problematic, and thus it has not improved enough for use in the legal forum. For example, the heterogeneity of general diagnostic categories often makes time of little or no possible use in legal determinations. For specific categories, the citations in our article and book (*3*), and even the DSM-III field trials, back our statement that "a number of . . . studies showed that rate of disagreement . . . often equals or exceeds rate of agreement." Finally, citing studies that demonstrate problems with medical diagnosis does not lessen problems with psychiatric diagnosis.

Spitzer *et al.* do not mention some of the more pointed criticisms of DMS-III and DSM-III-R raised in the literature, for example, that the list of disorders exceeds reasonable limits (incoordination characterized by such things as poor handwriting is included in the list of mental disorders) and that the diagnostic categories were shaped as much or more by political processes and personal values as by science (many categories were "established" by committee vote).

Most important, diagnostic reliability is but one piece of a far larger problem—the validity of psychologists' and psychiatrists' opinions on legal matters. A higher Kappa does not establish, for example, that a diagnosis can aid in determining mental state at the time of a crime; the DSM-III-R itself raises cautions about application to legal issues. Perhaps when organized psychiatry completes its noteworthy struggle with reliability, it might turn its attention to developing the scientific knowledge needed to answer legal questions with sufficient reliability *and* validity.

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Malformations in Chicken Embryos in the Northeast

Recent observations of chick embryos from hatcheries in Pennsylvania, Maryland, and Connecticut raise the possibility that something has been wrong with the eggs and embryos in these areas.

From early February until early October the following observations were made of chick embryos at two early periods of development—after 24 to 30 and 50 to 60 hours, respectively, of incubation. The younger embryos had a high incidence of blisters beneath the epiblast in the area pellucida. The later occurring, more prevalent, anomaly was observed in the tissue that forms somites, the segmental plate. This tissue began to break down after 50 hours of incubation, and for the next 10 hours the site that should have been occupied by the segmental plate appeared as a large, irregular blister. In some flocks the incidence of these segmental plate blisters was as high as 95 to 100%. Surprisingly, most embryos appeared normal 10 hours later, with the usual somitic array. It seemed as if the segmental plate or somites, or both, were reformed by restorative or catch-up growth. All embryos, however, were not normal. A high incidence of visible malformations was seen, including spina bifida, anencephaly, and herniated cardiac coelom.

We examined hundreds of embryos from ten different flocks from five hatcheries. No flock or hatchery was without anomalies. The problem has been serious in 1988, but the same observations were made in 1985. At this earlier time the incidence of segmental plate blisters was much lower and did not interfere with our research.

We would like to alert researchers that these anomalies may be widespread geographically and may have been interfering with results of experiments performed on young embryos. The anomalies were coincident with, but not necessarily related to, reports that chicken eggs in the northeastern states appear to be carriers of *Salmonella enteritidis*. Tests performed on the embryos by Robert Eckroade at the New Bolton Center of the University of Pennsylvania were negative for *S. enteritidis*.

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Erratum: In Deborah Barnes' article "Joint Soviet–U.S. attack on heart muscle dogma" (Research News, 14 Oct., page 193), credit for a photograph was inadvertently omitted. John Oberpriller of the University of North Dakota graciously supplied the photograph of a newt ventricular myocyte dividing in culture.