mann? Weierstrass? Cantor? Borel? Lebesgue? Hilbert? L. Schwartz?") and some are simply impossible ("There are two major types of nuclear explosive devices. Describe the mathematical formulation of the action in each case.")

At the close of his provocative essay on the gap between disciplines, Freeman Dyson writes of ways to bring mathematics and physics back together. It is at present not realistic, he says, to expect members of one group to make original contributions to work of current interest in the other. The fields have drifted too far apart and their union is too large for a single intelligence to span. What can be done, at least for the time being, is to establish contact through papers of a special kind: when a new result in one field shows promise of attracting interest in the other, a review article gathers up points of contact and proposes areas of collaboration. It will, of course, take a change of attitude, the invention of new kinds of reward, and a few reforms in graduate education to make this happen. It is perhaps just barely possible. And what about a more intimate reconciliation of the sciences in the long future? Here our imaginations must range more freely. The solution–a dangerous one, says Dyson–lies in the hands of the biologists who will ultimately discover ways of extending human memory and intelligence to the point where the whole of science is once again comprehensible to one human being. Meanwhile we must do what we can with the natural mind as it is given to us.

An excellent book on the present status and possible future of useful mathematics would be a step in the direction that Dyson envisions. Professor Murray's first attempt falls short of the requirement. Perhaps he, or another mathematician of equal distinction and equal dedication to the task, will give it another try.

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Relativistic theories of materials, by Aldo Bressan, Springer Tracts in Natural Philosophy, vol. 29, Springer-Verlag, Berlin-Heidelberg-New York, 1978, xiv + 290 pp.

Einstein's general relativity is primarily a unification of gravity with spacetime geometry: the curvature of a four-dimensional Lorentzian manifold signals the presence of gravity. But the theory can be regarded as a complete description of at least macrophysics; it necessarily deals with electromagnetism and matter in addition to gravity. In fact its most important specific postulate, the Einstein field equation $G = T$, describes, roughly speaking, how matter and electromagnetism generate gravity. The equation relates a purely geometric object with a physical, almost anti-geometric one: G, the Einstein curvature, is determined at a spacetime point by certain averages of the sectional curvatures there; T, the stress-energy tensor field, is determined by electromagnetism and matter. Einstein's own attitude toward this contrast is given, for example, by his comments on the equation in his autobiographical contribution to *Albert Einstein, Philosopher-Scientist* (Paul A. Schlipp