(*Neuronal and Lymphoid Cells*). Volume 2 deals with *Cells of the Endocrine System*.

Why would one wish to grow cells in defined media? Well, for instance, to grow cells other than the enduring fibroblast, when methods involving selective toxicity have failed; and, having such cells, to find what factors will support their survival and growth, though any extrapolation from "can" *in vitro* to "do" *in vivo* is dangerous. It is ironic that "organ" culture techniques have used synthetic media for three decades to study differentiated function. Now that purified factors are available for the study of cellular interactions, the technique no longer commands much interest.

Defined media can also be used to identify and purify molecules secreted by particular cells. When cells are grown from a patient's own skin for transplantation, such media may have advantages — will the time come, perhaps, when cells grown in culture can be used to relieve genetic deficiencies? In any cultures of this kind the choice of solid substrata arises (Vol. 1). But currently the main use for defined media is for the growth of hybridomas, allowing easier purification of monoclonal antibodies than when cells are grown in animals. If human hybridomas are used this method would be essential. Monoclonal antibodies are of potential application throughout the whole of biology and Vol. 4 is, thus, likely to be of greatest use.

Because serum proteins can mask many toxic agents and, to a degree, protect against the mutual inhibition of some reagents and contamination from the operator, the more defined media present greater difficulties. Iscove's trouble-shooting list (Vol. 4) could well have been repeated in the other volumes.

These volumes cover a wide range of techniques of limited application. As all their advice is already in specialist journals, only establishments where cell culture is in wide use would find them invaluable and might need all four. Single chapters might provide unexpected help to individual cell or molecular biologists. □

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Streams of cases and materials

Paul Sieghart

Law, Science and Medicine.
By Judith Areen, Patricia A. King, Steven Goldberg and Alexander Morgan Capron.
Foundation Press, 170 Old Country Rd, Mineola, New York 11501: 1984. Pp.1,494. $34.50.

LAW, science and medicine have interacted for as long as they have existed as separate disciplines. Rather more recently, their practitioners have grown increasingly ignorant of what others are up to, both within each discipline and across them. Much more recently still, this mutual ignorance has come to be seen as a threat to our civilized values — if not our collective survival — rather than just an irritant, and that perception is now spawning a growing literature.

One therefore turns expectantly to a 1,500-page volume with this title, hoping to find a full and structured analysis and discussion. Expectations rise even further when one sees that the volume is organized into four parts — I, The Evolving Relationship of Science and Medicine to the Law; II, Controlling Science and Medicine: the Roles of Individuals, Groups and the State; III, Achieving the Goals of Public Policy: Avoiding Harm and Promoting Fairness; and IV, Exploring Problems at the Frontier. Yes, a seemingly ordered and interesting approach, outlining a survey supported by arguments in progressive steps, within a directed sweep from the past to the future.

Then there is an expanded table of contents of no less than 22 pages, followed by a table of cases and another of authorities. Splendid. And then, with an icy shock, all expectations are dashed. There is no analysis, and no discussion. There is no order and no interest. There is no survey, no argument, no progression, no steps and no sweep. Instead, one is faced with yet another of those vast but useless compilations which go under the generic title of *Cases and Materials on . . .*: a veritable magpie's nest of clips from other people's writings, for the assembly of which all that is needed is a sharp pair of scissors and a plentiful supply of paste.

Time was, indeed, when case-books had their uses. In the Middle Ages, English law reporters published Year Books, to keep their colleagues up to date with what the judges were deciding. Later, they kept commonplace books, in which they noted down passages they thought worth remembering. But that was long ago; today, in the law, we have official law reports which record the primary data, and textbooks which order, analyse and discuss them. If you want to know the current state of the art on home-made wills, you consult the latest edition of *Williams on Wills*; if this does not give you the answer, you read the original reports of the decisions which the current editor of *Williams* has collected in copious references to his synoptic text. And what goes for home-made wills goes likewise for solid-state physics, organic chemistry, bacteriology or any other area of science.

But the modern case-book does none of these things. Neither its index nor its content will help you to discover the state of the art about anything. Instead, it is a short cut for the hard-pressed legal academic to publish without either perishing or having to think, and it is bought by a captive market of other hard-pressed legal academics who are given no time to think before they have to teach. Books such as these contain no more than random chunks of other people's work — from philosophers to judges to novelists — followed on occasions by a set of questions presumably intended for classroom discussion, of which this is a random but typical example from the present work:

> Hoffman's description of Einstein's development of the special theory of relativity provides a glimpse of a great scientific mind at work. Would Einstein's undoubted brilliance have made him a successful judge? Indeed, is brilliance, as contrasted with wisdom or empathy, a necessary characteristic of a good attorney or judge?

We find this on p. 197, in the section on "The Scientific Basis of Nuclear Energy", though we are not told what that is, or what it has to do with the passage just cited. But try throwing it at your students, and with any luck their credits may redound to your credit.

My bias against case-books will by now have become clear. But let us assume that there could be such a thing as a good and useful case-book, and then see whether the present member of the genus falls within that category. Try, for instance, a simple standard test: look for your own name in the table of authorities. Heavens, it's *there*! Not only that, but its typeface ranks it in importance above Dworkin, Nozick, Rawls, Popper and Pope Pius XII. It still reads well, too. But under what heading do we find it? "The Social Responsibility of the Scientist", which was its subject? Not at all: "The Development and Impact of Genetic Engineering". How strange — considering that the paper had nothing to say on that mighty subject, and was published two and a half years before the Asilomar conference.

One might not have guessed that, mind you, from the reference given: 1 *Hastings Cntr. Studies* 7–16. In fact, that was a later (and incomplete) reprint. The paper was first published in *Nature* in 1972, but that reference is omitted — perhaps because the book confines itself strictly to American "cases and materials", for all the world as if no one elsewhere had ever had anything useful to say on these matters.

What was it the Romans used to say long ago? *Melius est petere fontem quam sectari rivulos*—it is better to go to the fountain-head than to follow the streams. That goes for all scholarship, even case-books. □

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