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ETHICAL CONSIDERATIONS IN RESEARCH PUBLICATION

Periodically, news reports in the public press and the broadcast media inform us about a new scandal rocking either Congress or some governmental agency. The scandal might be anything from taking bribes, to exerting improper influence, to improper moral behavior, to any other of a host of misdeeds.

Only relatively rarely, however, do we hear about comparable situations in the world of science and research.

In part, this may be because the people involved are more honorable or have a greater sense of ethics. It may also be because they are simply less likely to face the pressures and temptations that persons who are in positions of greater public prominence routinely encounter.

But we suspect that there is also another explanation. In short, most people in research, in science, and in the health professions are inclined to treat such matters with reserve, discretion, and perhaps even a sense of incredulity. It is almost as if they refuse to believe that such misdeeds occur or that their colleagues and associates could be guilty of the purported practices. For example, the general reluctance of physicians to testify against fellow physicians in malpractice cases is widely recognized within the legal profession.

The psychology underlying this behavior can be explained in a number of ways. But whatever the reason for it, there is no question but that it exists.

These observations are prompted by a detailed exposé of an alleged scientific fraud that was reported this past October in a two-part story appearing in *Science* magazine. Many of the central figures named read like a Who's Who of American medical science. The principal institutions involved are the revered Yale University School of Medicine, the Columbia College of Physicians and Surgeons, and the National Institutes of Health.

The articles in *Science* are entitled, respectively, "Imbroglia at Yale (I): Emergence of a Fraud" and "Imbroglia at Yale (II): A Top Job Lost." We shall not attempt to summarize the story because it is exceedingly complex and a brief summary might treat one or another of the parties unfairly. As a consequence, we recommend to our readers that they read the entire report as it is fully laid out in *Science*. The specific wrong-doing includes plagiarism, destruction of data, falsification of data, and efforts to conceal or down-play the problem. For the principal scientist involved, the episode became an "intellectual Watergate."

In reviewing the scenario, the account in *Science* reveals that initially the incident appeared of minor significance: "The so-called plagiarism consisted of a few unimportant phrases containing, in total, some 60 words." After first reviewing the case, the dean at Yale was inclined to dismiss it. However, over the next year, matters gradually snowballed and eventually led to the retraction of 11 papers published in prominent scientific journals, the forced resignation of the chairman of the department of medicine at Columbia, and a host of other sordid consequences.

With this background, we would particularly like to highlight a couple of key conclusions in the *Science* articles:

- "The Yale part of the story is a case study in how a busy senior investigator lost touch with the laboratory of a junior associate. It raises serious questions about the career pressures that lead to coauthorship and about the health of team research in general."

- "The subtle effects of the Yale imbroglia might never be measured, but they will be there nonetheless. Senior researchers, for instance, may hesitate a bit in the future before signing a paper not carefully checked out."

- "The fabric of the reward system of coauthorship was torn. To the extent that there are [other researchers of similar bent] at large in the labs, doctoring data, the incident stands as a threat and a warning."

All of this may appear to be very remote to the *Journal of Pharmaceutical Sciences* and its readers, authors, reviewers, and editors. At most, we might consider the Yale-Columbia incident to be of only casual and incidental interest.

Regrettably, however, over the past decade we have experienced several comparable and analogous situations. Fortunately, in most of these cases, the unethical behavior was uncovered before publication of the pertinent manuscripts; as a result, appropriate corrective action was taken to prevent soiling the published literature. In several other instances, the particular problem only came to light following the paper's publication and the opportunity thereby afforded an affected party to read the paper, to recognize the existence of a problem, and to bring that problem to the attention of the editors and other pertinent parties.

Because these instances of apparent fraud or unethical behavior are not widely publicized like those mentioned in the opening paragraph above, few of our readers, authors, or reviewers are ever aware of them. Nevertheless, they do result in a serious embarrassment and a permanent taint on the reputations of the scientist or scientists involved. Consequently, when it comes to research publication, we wish to counsel the utmost care and caution on the part of all those who would author or coauthor papers, as well as on the part of those who have the responsibility to review or otherwise pass judgment on such manuscripts for possible publication.