

greatest potential value, not to the admissions committee to whom they are addressed, but to the students about whom they are written. Accordingly, I have adopted the convention of routinely making copies available to students upon request. I take issue with Herreid's contention that a faculty member is much less likely to write an open appraisal of the student if he knows that the information is not to be confidential; an evaluation (admittedly subjective) of the letters I have written before and since adoption of an open-file policy fails to reveal any obvious changes in tone, honesty, or candidness of the appraisals. Indeed, I have on occasion found this a useful medium to communicate to a student my concern about an area of deficiency which in all probability would have otherwise gone unmentioned.

Thus, while I agree with Herreid that medical schools (and other admissions committees as well) have an obligation to the writers of reference letters either to guarantee confidentiality or to adopt and announce publicly a policy to the contrary, I at the same time recommend that colleagues consider the virtues of making such letters available to the student as a matter of course, thereby making the requesting and writing of letters of recommendation less of a cloak-and-dagger operation than it too often is at present.

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Evolution of the Brain and Intelligence

Ralph Holloway (10 May, p. 677) has used his review of Harry Jerison's *Evolution of the Brain and Intelligence* (1) to pursue a debate of long standing between the two men. He devotes almost the entire review to criticizing Jerison's opinions on the evolution of the brain in *Homo sapiens*. Some criticisms are well taken, others are not; but this is not the point. Jerison has assiduously collected data on the evolution of the brain in all vertebrates living and fossil, and the bulk of his book is devoted to these larger issues. Moreover, he treats them with the finest and most coherent set of data ever available, and with a biometrical sophistication

that avoids a century of pitfalls caused by misunderstanding of the relationship between brain weight and body weight. Among his fascinating conclusions are the following: (i) dinosaurs were not small-brained but had brains of the bulk predicted for reptiles of their body size; (ii) *Archaeopteryx* had a brain midway in size between those of average reptiles and birds; (iii) early Tertiary primates had smaller brains than average modern mammals of the same body size, but some of these primate brains were larger than those of any other early Tertiary mammal; thus, brain size has increased within the Mammalia as a whole, but primates have always been ahead of other orders.

A review in *Science* is the most widespread notice that technical books receive. Criticisms of particular and peripheral points should at least be accompanied by an adequate account of a book's main thrust and general content.

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References

1. H. J. Jerison, *Evolution of the Brain and Intelligence* (Academic Press, New York, 1973).

1984

I believe that it is somewhat far-fetched to use the terminology of the Pentagon or the statements of Daniel Ellsberg as evidence that "there is still a danger that before 1984 we shall enter a tunnel at the end of the light," as was mentioned by Leonard M. Rieser, retiring president and chairman of the Board of Directors of the AAAS, in his presidential address in San Francisco (26 Apr., p. 486). Events from the Senate censure of Senator McCarthy to the present Watergate investigation present ample evidence of the general success of the checks and balances which are available to us to prevent an Orwellian 1984 in the United States.

Certain events in societies other than our own, however, closely approach some of the predictions of Orwell for 1984. Rieser quotes Orwell: "Whoever controls the past controls the future. Whoever controls the present controls

the past," noting that Orwell's "IngSoc" history is rewritten with complete thoroughness on a daily basis.

It is common knowledge that continuous "revision" of history is one of the underlying facets of the thought control practiced in the Soviet Union. Selectivity in the release of news to the masses further strengthens the "control of the present," and the publication of historical facts or actual events not in agreement with current ideology can entail criminal prosecution to the disseminator.

While constructive self-criticism is necessary for any society, including our own, a consideration of events in other societies may help to put conditions in our society into better perspective. While we are far from perfect, others seem to be much closer to "1984" than we are.

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What We Have Yet to Learn

Norman Hackerman deserves hearty congratulations for his brilliant editorial "Ignorance as the driving force" (8 Mar., p. 907), in which he explicitly brings out the meanings of "pure" ignorance, the ignorance explosion, and the information explosion.

In this context, I quote a famous Tamil verse of the gifted poetess Saint Avvaiyar, who is popular in every home in Tamil Nadu, India. She lived in the first century B.C., ranking first among the many poetesses who flourished during that period.

Poetess Avvaiyar says,

Kattrathu Kai Mann Allavu,
Kallathathu Ulakallavu.

In essence, it means,

What we have learnt, is like a handful of Earth,
While what we have yet to learn, is like the whole World.

This verse, sung 2000 years ago, even now holds true, and it is certain that the knowledge which we have today is only an infinitesimal part of what we have yet to know.

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