

research. And in this Decade of the Brain it seems an opportune time to take stock of what we know about the role of adenosine in the regulation of brain function.

Gary L. Stiles
Division of Cardiology,
Duke University Medical Center,
Durham, NC 27710

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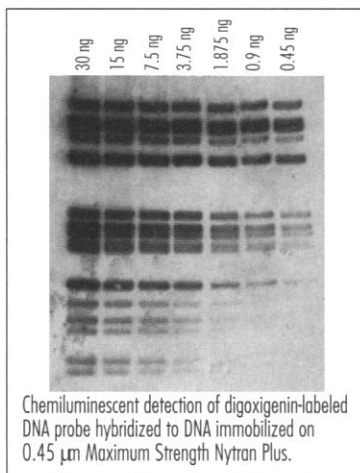
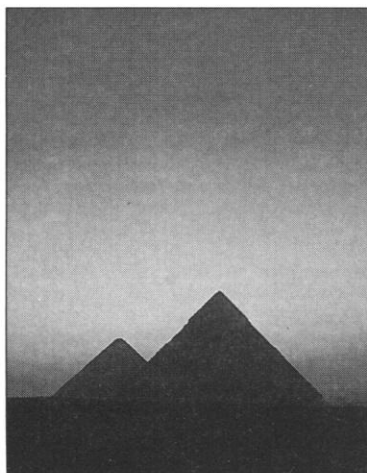
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Vignettes: Retrospectives on Development

I have been told that Arthur Arndt, who made the first motion picture of slime mold development, used to argue in his public lectures in Germany in the 1930s that their life history was so amazing it could only be explained by resorting to vitalism! As a beginning assistant professor, I gave a brief lecture at the Marine Biological Laboratory at Woods Hole in Massachusetts, and apparently word had spread to the world of journalists about this queer organism. Some days later I received a letter from J. J. O'Neill, the science reporter of the *New York Herald Tribune*, saying that he had heard I had done something more important than discovering the atomic bomb: I had created a multicellular organism! I quickly replied that it was not I but God who had managed the remarkable phenomenon and please, for my sake, to restrain his journalistic ardor. My leaning so heavily on support from God may be excused by my anxiety not to be embarrassed by the newspaper . . . If I had wanted to give the reason that I really believe explains the peculiar life cycle of slime molds I would have said natural selection, the brainchild of Darwin and Wallace.

—John Tyler Bonner, in *Life Cycles: Reflections of an Evolutionary Biologist* (Princeton University Press)

The insularity of disciplines before the 1970s is reflected by popular slogans—the condensed wisdom of the elders. The biochemists' doctrine was "never waste a clean thought on a dirty enzyme." In the early 1970s, as an editor for the *Journal of Biological Chemistry* who was considered to be a developmental biologist, I received two kinds of papers to review. The first had to do with purification of an enzyme from an embryonic source. The second was any paper dealing with chromatin. In those days, scientists studying chromatin considered themselves biochemists, and biochemists, when forced to categorize a paper on chromatin, thought it had something to do with developmental biology. After all, you should never waste a clean thought on a dirty enzyme. Developmental biology was viewed as hopelessly complicated and, therefore, to be avoided by a traditional biochemist. Biochemistry, when applied to development, measured the increase or decrease of an enzymatic activity as development proceeded. The sophisticated biochemist distinguished between a genuine change in the amount of a protein and the change simply in enzyme activity. . . .

The embryology elders held the opposite point of view. I remember hearing a famous embryologist say that over the years he had developed a working relationship with the chicken embryo. The embryo promised to occasionally divulge a secret if he, in turn, promised never to homogenize it.

—Donald D. Brown, in *Evolutionary Conservation of Developmental Mechanisms* (Allan C. Spradling, Ed.; Wiley-Liss)

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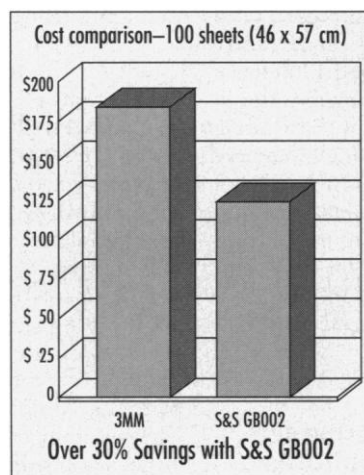
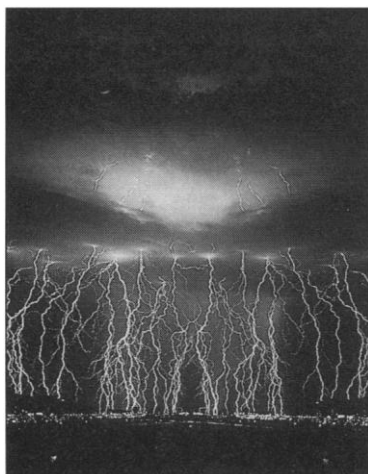
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