the development of hypertension in some persons is related to the presence of underlying mild primary hyperaldosteronism. Thus, in these persons, aldosterone may indeed be a villain rather than a bystander in a society in which dietary sodium intake is high.

Dr. Williams reports having received consulting fees from Pharmacia, Novartis, Biogen, and Eli Lilly, as well as lecture fees from Pfizer.

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I had forgotten about it amidst the other tasks of medical-student life: exams, patient write-ups, the shirt I needed to iron. But an e-mail from my fellow student John reminded me that it was my turn to lead the journal club for our HIV–AIDS interest group. I had no idea what article I would bring. I bumbled through PubMed in search of a paper, wandering through several topics before landing on an article about the high prevalence of chlamydia in China, along with an editorial arguing for a particular strategy for preventing a new explosion of human immunodeficiency virus (HIV) infection. I wasn’t sure that I could lead a good discussion on this article, but time was up, so I picked it and hoped it would work out. At least in one important sense, it did.

There were only four of us at the session — just barely enough. My fellow journal-club members were puzzled by some of the statistical methods, and I couldn’t help much. And I discovered that I’d failed to examine closely the most interesting aspects of the data tables. Nonetheless, I had brought some questions, and I was blessed with thoughtful, talkative colleagues. We talked about infectious disease, social power, and economic development; about whether different factors might drive outbreaks in different regions of the country (thus requiring different intervention strategies); and about how the structure of sexual networks influences the pattern of spread of sexually transmitted diseases. We tried to get through the data ourselves without relying on the interpretations in the abstract or the editorial.

A few days later, Kanu, a journal-club regular, e-mailed us a link to a news article about the Chinese economy, saying, “Thought you guys might be interested, considering our conversation the other day.” And it was then that I remembered the genius of journal club: I was interested in reading this rather dry article about Chinese economics and politics, because now I had a context and a purpose for the information.

Moreover, in the process of looking for an article, I had learned still more. For instance, while looking through the literature on sexually transmitted diseases, I had called my friend Dan (who had been in charge of the first journal club I’d attended) to ask him about network theory in research on sexually transmitted diseases. I had read an interesting review article about GB virus C (which would become the topic of another journal-club meeting when a new research article came out).

I had learned a bit about the economic and physical geography of China. I had remembered that Chlamydia trachomatis is an obligate parasite.

None of this knowledge — except the stray fact about C. trachomatis — will help me on any exams. Nor did our group come up with any particularly helpful ideas about AIDS to offer to the Chinese people. We developed no 10-point plan for stopping HIV epidemics. It might appear as if we accomplished nothing. But by struggling through the article together, we became more awake to the world around us and more immersed in the scientific project of exploring it.

When I was younger, I generally encountered
science as a set of facts to be drilled — OK if the facts are interesting, but certainly not an awakening. When I finally experienced science as a creative endeavor, it was through conversations in journal clubs.

My first conversations were about epidemiology, when I was working at a community HIV-prevention agency with a staff journal club. My next conversations were about the immune system, in a journal club run by AIDS activists with the help of a graduate student in immunology. It was a perfect example of the way in which certain kinds of AIDS activists and community AIDS workers not only influenced science, but were influenced by it. We came to science in an atypical order: first through scientific meetings and journal articles and only later, if at all, through formal training. In the face of the urgency and uncertainty of the AIDS epidemic, even nonscientists like me could see science as discussion, debate, a cooperative search through the unknown — and as a creative activity.

As a second-year medical student, I find that my energies and those of my classmates are more often driven by feelings of inadequacy than by the inspiration of science as a journey. We worry about things we don’t yet know but that are known by others — especially those who will test us. Spending time on the unknown often seems indulgent. This preclinical period of acquiring the facts of medicine is an inevitable phase of our development as physicians. Certainly, my greatest suffering in medical school comes when I resist that necessity. I can see that my patients will need me to have a good portion of those facts in hand, and patients, after all, are the reason I came to medical school.

Still, some of my sweetest times here have been those when science stopped being facts to drill and became a conversation. Our HIV–AIDS journal club is informal, small, and led by students; it meets on a catch-as-catch-can, not-during-exam-week schedule. Nonetheless, it has survived for a year now. No faculty members are ever present; I doubt that many know it exists. No one is handing out extra-credit points for attendance. But we care about AIDS, and so we value AIDS research.

Voluntary journal clubs require intense sincerity; little else can motivate people to read scientific articles and really engage with their contents. During my time in an immunology laboratory, I used to receive announcements about another journal club, which started with salutations like “Greetings, B-cell fans” or “Hello, B-lievers!” Not being a B-cell fan in particular (I like them fine, but I’m more of a T-cell loyalist), I never attended. But I loved the greetings because they conjured up visions of a group of enthusiasts. A good journal club must include not only “journal,” but also “club.”

For this reason, I distinguish journal clubs that are required (as in work settings) or offer tangible rewards (for instance, notice from powerful people) from voluntary associations. The former are a sort of mandatory fun, more “journal meeting” than “journal club.” In a journal club, members are having a conversation for its own sake. People show up at a good journal club even when the boss is out of town or the material won’t be on the test. At these moments, science is no longer a means to an end but a pleasurable end in itself.

It’s not that I oppose journal meetings. Even a journal meeting fosters an appreciation for the primary literature of science, a healthy skepticism about its findings, and the skills to read critically. Journal meetings and journal clubs alike help readers to form conclusions, raise doubts, and ask questions that extend more deeply and widely than those of the abstracts and accompanying editorials. Both prevent us from treating journals as extensions of textbooks — and remind us to question our textbooks.

But only we ourselves can give each other science as conversation. To do so, we have to announce our enthusiasm and actively seek out others who share it. This is not as easy as it sounds: sincerity is a form of vulnerability. Simply put, one risks looking like a geek. But there are worse things, including never loving science yet spending one’s career immersed in it.

Journal clubs don’t always work, of course, but they’ve evolved some practices that make success more likely. For example, each meeting should focus on at least one article containing primary data, although review articles can be an illuminating addition. The responsibility for presenting articles should rotate among members, all of whom should be more or less equally comfortable — or ready to dive in fearlessly — in the club’s research area. Senior members should not dominate, and everyone should participate. Presentations should be brief, aiming to start and facilitate conversation, give some background, and clarify research methods. Ideally, the responsibility for scheduling sessions, reserving meeting space, and sending out reminders should also rotate. These customs support an underlying proposition: the journal club is
a conversation among equals about the work and fruits of science.

Science makes its splashes with new results. Science lives, however, not by results, but by the exchanges of ideas that follow them. And so journal clubs are a way of keeping science alive — even in medical school, and beyond.

From Harvard Medical School, Boston.