With Pitfall and With Gin

H. B. ATLEE, M.D.*

O Thou who didst with pitfall and with gin
Beset the world I was to wander in.

Omar Khayyam

Life has a perverse tendency to cause methods and ideas to boomerang in a devilish way that, in the beginning, seemed nothing but good. This applies in medicine as elsewhere. Since too many seem not to realize under such circumstances what hit them, or from which direction the missile came, I am constrained to play one or two variations on this theme. Not so much with any high hopes that it will do any good, as to take *some* of the strain off my own conscience.

Gullery in the Corridor: When the drug manufacturers first sent their travelers to visit the medical profession, the purpose was to enlighten the latter as to what new drugs and therapies were being made available. But a subtle change has taken place. Now, the gentlemen who stand waiting for us in the corridors of the hospitals have taken on the function of instructors in therapeutics. They lecture on the miraculous virtues of their wares. They hand out literature which may or may not reveal clear evidence of the validity of such claims. The real fact is that, in so far as the great bulk of medical practitioners, residents, internes, and medical students who gather around them are concerned, their species of instruction is a very definite invasion of the teaching of therapeutics. For many its continuance constitutes the great bulk of instruction in that subject that they will receive for the rest of their lives.

If this type of pedagogy is necessary, one is forced to one of two possible conclusions: either our medical schools are abdicating an important teaching function, or we are tolerating a highly dubious duplication. For the question rises at once in the minds of the wise; who should instruct us in therapy—those who have throughly and scientifically trained themselves to do this and been appointed by our universities to that purpose, or those without any such training who are simply mouthing what they have picked up on brief visits to the head office of a drug firm?

My father was a druggist. On one occasion, long after I had graduated from medical school, he asked me to use my car—I had driven to Annapolis Royal to visit the folks—to a take a number of partly filled winchesters to one of the wharves and dump them into the drink. These winchesters contained drug preparations that had been popularized to the profession by travellers, only to be replaced by other nostrums equally popularized and so had cluttered father's shelves for some years unprescribed. They represented considerable wastage which, of course, had to be passed on to the customer, increasing the cost of prescriptions. One of them was Liquor Sedans, a sort of medically-acceptable Lydia Pinkham's Compound, which for many years had been the old reliable in the professional treatment of various gynecological conditions, and which—I must confess—seemed to achieve as satisfactory results as most of the drugs presently used for the same pelvic derangements. At the conclusions of this garbage disposal father said to me: "I hope you haven't got a ring in your nose, too".

*H. B. Atlee, M.C., M.D., C.M., L.L.D. (Dal.), F.R.C.S. (Edin. and Can.), F.I.C.S., Professor Emeritus, Dalhousie University, Halifax, N. S.

Now these drug travelers are not consciously subverters of the truth. Some of them are as upright citizens as we have. They are simply doing what they are told by their firms, and I am sure most of them feel they are conferring a real benefit not only on us but on humanity in general. Yet when they persuade you and me to use one of their preparations, the situation is clearly and unmistakably another manifestation of the blind leading the blind, with all the possibilities of another thalidomide lurking along the trail. They represent a complete repudiation of that scientific method of which we are supposed to be the disciples. In participating in this subversion we are betraying science as reprehensibly as any other Judas.

The Yen To Prescribe: A good many years ago when I first came to Halifax, I dropped into a drugstore to buy my wife a nutbar—not being able at that time to afford a "Pot of Gold". The manager of the store had been trained by my father, and his kind heart was troubled by my failure to lure patients to my office. "You know, Hal", he said, "you don't prescribe enough. Now take Dr. Blank", he went on, referring to a very popular and busy doctor—"he almost always writes three prescriptions for every patient—*and they appreciate it*".

But since this was shortly after father's remark about a ring in the nose, I went my way unconvinced that three prescriptions per was the best, or even a good way to build up a practice. Nevertheless, I do recognize the strength of the temptation to prescribe and over-prescribe. The great majority of patients who come to us either want us to put props under their emotional deviations, or to get them better with a maximum of speed and a minimum of effort on their part. If some great fat apology of a woman faces you with a story of increasing backache and shortness of breath,

she doesn't want to be told that the way to salvation lies in cutting her diet down by two-thirds and keeping it there. She wants a pill, or an injection, or an operation. If you point out the probable truth and refuse any other prescription, she is likely to leave you with a heart laden with frustration and resentment and seek among your colleagues one more accommodating. By the time this has happened a dozen times you are prepared to send to the printer for a few thousand prescription blanks, and to the butcher for a knife to cut your scientific throat.

Presently, you have become the complete prey of the gentleman mentioned under my first heading. For not only are you now a prescriber, but you have developed the irresistible urge to prescribe the newest thing on the market—not because it is better than the old, but just because it is new. The Materia Medicas described an ancient preparation called Ung. Gallae cum Opio that is excellent for piles. In fact, I have never found anything as good; (am I now talking like a drug traveler?). But no young practitioner would belittle himself by prescribing it and instead exhibits some new nostrum with no more healing ingredient than a local anaesthetic to which the patient may actually be allergic.

The urge for newness for its own sake seems particularly to afflict internes. The other day I discovered that one of my prescribed sedatives had been changed to a drug so new that it is still being tried out experimentally in another local hospital. The patient finally got to sleep on the same old chloral hydrate our grandfathers found so effective. Yet so infrequently is it used these days that only last week a druggist rang me to question a dosage of 35 grains which I had prescribed. I told him something to the effect that I had found that it paid to send a man rather than a boy on a therapeutic errand when it concerned a post-operative who could not sleep. And what hakim of any therapeutic gumption will not finally fall back on that hoary standby paraldehyde, when all the barbiturates and other coaltar distillates have merely set the patient to picking the bedclothes? One of the commonest statements I hear from patients is that they have had injections of penicillin, a drug so commonly used these days for "coughs, colds, sore holes and pimples on the belly" that desperado organisms like the gonococcus are thriving on it to such a degree that you hardly need a microscope to spot them.

This yen to prescribe abundantly is a rather extraordinary phenomenon in a supposedly Christian country. Why have our imaginations been so caught up by the miracle of Christ's cures that we disregard the real gist of the matter—"Go and sin no more."? I suggest that we would be truer to our scientific ideals and in the long run do a better job for our patients if we spelled out for them the meaning in a medical way of "Go and sin no more", and stopped reaching automatically for the prescription pad. It might also aid us towards maturity if we questioned occasionally the dictum that because it's new it's better—a statement that isn't necessarily true even of virgins. Our modern dairies have a new way with milk. They strain off the cream, put something back in a lesser percentage that may be cream or may be a vegetable oil, homogenize it, and sell the result. Is this better than what comes straight from the cow's tits?

". . . But the lab says": Undoubtedly the laboratory and those who work in it have conferred a great boon on us and constitute the right bower of our clinical efforts. Nevertheless, there is so steady a growth in our tendency to regard laboratory reports as infallible that I feel constrained to deprecate. Thus, if we get a notification that the Aschheim-Zondek is negative we tend to assure the anxious stenographer or widow that she is not pregnant, or the gentleman whose penile smear shows "diplococci indistinguishable from the gonococcus" that he has the clap. Yet in one case the girl may be pregnant and in the other the coccus many not be gono.

Similarly, a report on an ovarian cyst with nobs on it may indicate benignity when the growth actually is malignant, or vice versa. Some years ago I opened an abdomen and found the pelvis choked by two densely adherent ovarian tumors whose mushy content looked so malignant that I closed the abdomen without doing more than taking a biopsy. A few days later, to my chagrin, the report came back from the pathologist that the tumor was benign. I explained this to the woman and she agreed to let me have another crack at her pelvis. This time, after a very trying effort, I got the two cysts and the uterus out, only to learn from the pathological report that areas of malignancy had been found. Four years later I was buying some screws (the kind you use a screwdriver on) at the five-and-ten, when I ran into the patient and she was as full of bounce as a rubber ball. What was the truth about her tumor?

I am sure it would be better medicine if we regarded with less awe reports from our various laboratories, and approached our patients with greater clinical cunning. Don't misunderstand me: I am not advocating a complete disregard of the laboratory in favor of dependence on the naked senses. What I am suggesting is that we remember that the laboratory worker, like ourselves, is an imperfect human being whose interpretations—like Mr. Hornstein's on the weather—can be misleading. This would fortify us against the behaviour of those who tend to make their diagnoses by mulling over laboratory reports far from the patient's bedside, in the manner of an ancient soothsayer interpreting the future from an inspection of the entrails of the sacrificial animal. A doctor making a diagnosis is something like the captain of a ship trying to make port. If, despite the breakers, he can plainly see ahead, and he continues to rely on a compass that may be temporarily defective, he will soon find that his bottom has been holed.

"It ain't necessarily so": Has it ever struck you when you entered the Medical Library that there was a mighty lot of clinical journals on the stands, and more coming all the time? Have you wondered why?

I imagine it was in Germany that the medical journal idea began, although the *Lancet* is of fairly ancient days. What used to happen in Germany was this: Some well-known university professor took on the editorship of a journal. When he had collected enough papers, he published. This might be every month, or two or three times a year, or only once a year. The journal might not appear for long intervals at a time. One reason for this infrequency and irregularity was that the professor turned down all submissions that in his opinion were not of the highest quality or did not really advance the sum of knowledge in his subject. The other reason was that the journal carried no advertisements.

The emergence of medical advertising has changed all this. We now get our journals every month on the dot, come hell or high water, and we get more every month. But the human mind, unlike a woman's pelvic organs, does not work on a regular schedule. Perhaps in May, with the sap rising in the limbs, ideas rush to the mind like teenage girls to a visiting crooner, and a sufficient number of worthwhile papers are available. But around the middle of February, the struggle to keep the snow off the sidewalk and coal in the furnace, takes up so much of this energy that in those months the submissions are few and far from enlightening. But the editor of the journal has his monthly dateline and he must fill his pages somehow. As a result he accepts for publication a great deal of material that is unadulterated mush. When it isn't a stale rehash of ancient material, it is often so badly written, so lacking in real exploratory background, that it is not only worthless but highly fallacious. I know, because in my unregenerate past I have contributed and had printed such bogwater.

Yet, just as we stand in awe of the laboratory report so do we of the printed word. If it appears in a medical journal it *must* be so. But let me say this to the credulous and uninitiated: if any article is not based on a study of at least fifty cases, or if any therapy concerned was in the form of pills or liquids that the patient took at home, one should read such a communication with great skepticism and suspicion. If there are less than fifty cases the long arm of coincidence may have entered the picture. At one time I had a consecutive series of 13 cases of threatened miscarriage that aborted. Supposing the reverse had happened, and I had given these patients a prescription for Lydia Pinkham's Vegetable Compound. I might have claimed in an article that this nostrum was the real McCoy for threatened abortion—or even stretched it to include habitual abortions. I can recall similar conclusions based on as few cases.

A few years ago two of our preclinical departments set up a sort of journal club, to which certain clinicians were invited—although except at all but one of the sessions I attended I was the lone representative of the latter. One of the papers digested originated in a large Canadian city, and its authors who were otherwise entirely biochemists, had associated with them a gynecologist. These biochemists had extracted a new sex hormone, with which the gynecologist had treated 17 cases of benign uterine bleeding with most gratifying success. I made the mistake of rising to my feet and declaring in my modest way that the clinical conclusions of the paper were essentially worthless, since they were based on so few cases and with no indication that any attempt had been made to safeguard against the possibility of some perverting x-factor.

After the meeting I was buttonholed by two of my biochemical friends and told bluntly that I had become a disruptive influence. I had not only been unfair to the authors of the paper under discussion, but—they seemed to infer—it was ridiculous for a gynecologist from a jerkwater school like Dalhousie to attack the work of the godlike of a great Canadian university. Nor were they moved by my suggestion that their reproach was a most unusual manifestation of the scientific spirit. I left them sadly, and with a feeling about journal clubs that to this day I have not entirely overcome. I feel I should add as an ironic footnote that (1) the new hormone turned out to be similar in all respects to another that had been previously discovered, and that (2) its claims to success in benign uterine bleeding have proved illusory.

And then there are those papers based on the ingestion by patients at home of various preparations, where there were no precautions taken to be sure the preparation actually was taken, and no controls to check against the results. Did you ever get a glance into the bathroom cabinets of your patients and see the jammed boxes of pills you had prescribed still almost full? It's an enlightening experience . . . unless you have a hole in your head.

A few years ago some investigators in Chicago felt that the claims being made for certain hormones in the cure of sterility should be more carefully checked. They therefore gave out two sets of pills to a group of patients, one containing the hormone and the other a placebo. Nobody except the girl handling the pills knew who was getting which. In addition to hormone and placebo the pills contained a dye which showed up in the urine only after a reagent was added to the latter, which they tested regularly in every case. What they found was that about one-third of the patients were not taking the pills. But they also found out that the ultimate results were the same whether the patient took the hormone, the placebo, or neither. Very few of the papers appearing in clinical journals are tested by the precautions that characterized this investigation.

I sometimes wonder if it would not be a good thing to return to the older arrangement where a strict editor publishes only those papers of real worth and without benefit of advertisements. In other words, should our journals be supported entirely by the price of the subscription? We might have to wait for months on end for our favorites, but wouldn't it be worth it if they contained a minimum of mush and a maximum of gold?

One would think that a publication as important as the Journal of American Medical Colleges should be an exception to the rule. Its subscribers are solely medical teachers, the elite. Yet the worst article I ever read appeared in it. Couched in a gobbledegook so amazing that I could make neither head nor tail of it, it was such unadulterated excrement of the bull that I wrote the editor, whom I happened to know personally, quoting certain sentences and paragraphs and asked him if he could translate them for me or get the author to do so. He replied that he also had boggled over this article, but since it had come to him with a letter from the Dean of one of America's most outstanding medical schools requesting its publication he felt he must do so. Perhaps that sort of thing might happen with a compliant editor no matter what system of publication was adopted, but I am sure that it would be the exception rather than what is now the rule if the advertisements were eschewed. But surely the reductio ad absurdam of medical publication is the appearance of paper after paper in journal after journal on the results of a certain operation by a well-known American gynecologist—each of which has been a slightly modified rehash of the original. It was an excellent contribution in the beginning, but after running into it fairly constantly over a period of 15 years the music coming from that single string sounds mighty thin.

I hope all of the above does not sound too much like the outpourings of an angry old man. Perhaps what we really need is more angry young men with guts enough to raise hell in this imperfect world. All power to any such as be among you, and if you run out of things to be mad about I can supply you with a lot more on the shortest notice.

* * * *

Editor, Dalhousie Medical Journal,

Dear Sir:

So we'll drinka drinka drink
To Lydia Pinka Pinka Pink . . .

Anon.

Dr. Atlee persuasively argues that the advertising copywriter has an easy job pulling wool over doctors' eyes. He thinks that the matter will be rectified by the inculcation of trenchant scepticism in our medical schools. Unfortunately he chooses to base his scepticism on ignorance. And, very capably, he expounds his own particular ignorance: he declines to accredit studies based on less than 50 patients because of the risk of coincidence.

It is conventional statistical practice to partition error into two independent elements, random and systematic error. When sample size in increased, random error is diminished, but systematic error is unaffected. Since random error can be estimated from the data whereas systematic error cannot, it would follow that Dr. Atlee would purvey better advice if he were to insist on the quality rather than the quantity of data.

Dr. Atlee might also remember that truculence is really no aid in evaluating scientific research: only commonsense and a training in statistics are much use. Even now some improved form of thalidomide is probably being endorsed as "Nature's Way". It would be as well that we should recognise it before fifty deformed infants convince Dr. Atlee that the drug companies have made another contribution to teratology.

Yours truly,

William H. James.

* * * *

Editor, Dalhousie Medical Journal,

Dear Sir:

Mr. James' letter is such a mishmash of gobbledegook that I really don't know what he means. Do you think he does?

Yours truly,

H. B. Atlee.