

## Helping Physicians To Keep Abreast of the Medical Literature: *Medical and Philosophical Commentaries*, 1773–1795

[Life is too short for a conscientious physician] to acquire—even with the most suitable education, unremitting observation, accurate investigation, and unwearied reading—...satisfactory confidence in the unreserved treatment of the sick committed to his charge.

John Rollo, 1801 (1)

Like John Rollo (d. 1809)—an army surgeon trained in Edinburgh 200 years ago—today’s conscientious clinicians wishing to keep up to date with relevant information face a truly daunting task (2). In response to this challenge, clinical epidemiologists at McMaster University, Ontario, Canada, in collaboration with others, initiated (3, 4) and continue to develop (5) the concept of “critical appraisal” of reports of research, encouraging clinicians to be ruthlessly discriminating in their reading. Building on these principles, they have been instrumental in promoting wide adoption of structured abstracts by medical journals (6) and in launching journals intended to help busy clinicians keep abreast of new, relevant, critically appraised evidence, such as *ACP Journal Club* and *Evidence-Based Medicine*.

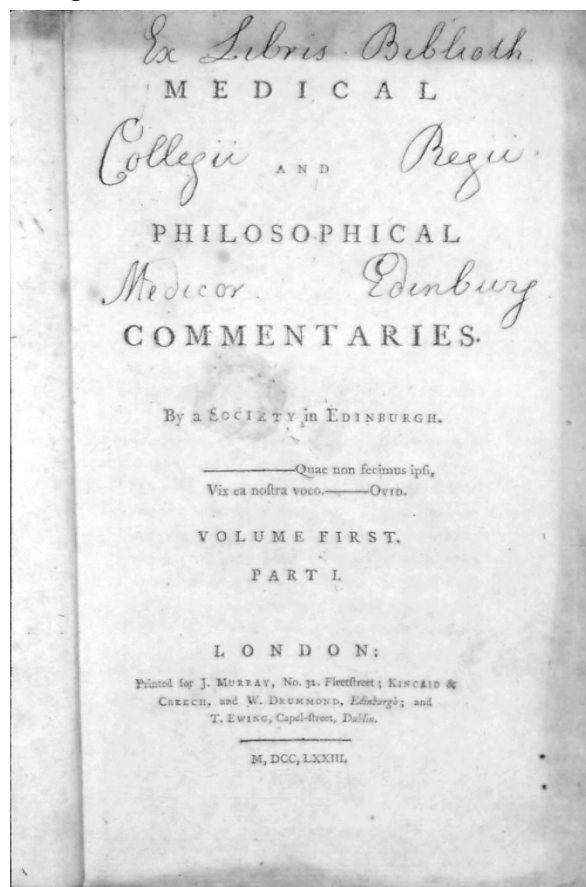
Attempts to respond to the needs of busy people for relevant research information are not new, however. More than three centuries ago, two English-language journals—*Weekly Memorials* and *Medicina Curiosa*, both established in 1684—contained abstracts of articles and books published elsewhere. The contents of the former were mostly nonmedical, however, and the latter ceased publication after only two issues (7).

The following century, a periodical containing abstracts of scientific and medical books—*Commentarii de Rebus in Scientia Naturali et Medicina Gestis*—was published in Leipzig, Germany, between 1752 and 1798 (8). This German periodical was to be a model for the first English-language journal of abstracts of books relevant to busy clinicians, *Medical and Philosophical Commentaries* (Figure 1). It was launched in 1773 in Edinburgh (9), then a fountainhead of a quantitative approach to the assessment of medical practice (8). Between 1773 and 1780, more than 1000 copies of each quarterly issue were published simultaneously in Edinburgh, London, and Dublin in three editions, selling at one shilling and sixpence each

(10). These characteristics suggest that the readership of this journal included all types of 18th-century practitioners—university-trained physicians, barber–surgeons, apothecaries, and the new type of surgeons with Scottish or continental MD degrees. The journal became sufficiently well regarded to justify translation into languages other than English (11). In 1780, it was renamed *Medical Commentaries* (the new title reflecting its clinical contents), and it was published annually until 1795.

The anonymous “editors” of this periodical were actually one man, Andrew Duncan Sr. (1744–1828), who edited it throughout its run (10) (Figure 2). Like other pio-

Figure 1. Copy of a title page of the first issue of *Medical and Philosophical Commentaries*, courtesy of the Library of the Royal College of Physicians of Edinburgh.



neers involved in the development of a critical and quantifying approach to the evaluation of medical practice in late-18th-century Britain, Duncan did not come from a medical family (his father was a provincial merchant and shipmaster). This meant that he had to earn his place as a member of Edinburgh's medical establishment. The first step along this road may have been taken when, as a student, he was elected president of the Medical Society. His founding of *Medical and Philosophical Commentaries* (14) only 4 years after receiving his MD diploma was undoubtedly another important step. In 1790, he was appointed Professor of the Theory of Medicine in Edinburgh University, and went on to become President of the Royal College of Physicians of Edinburgh (1790–1792; 1824) (12, 13).

Duncan's editorial introduction to the first issue of *Medical and Philosophical Commentaries* has a remarkably familiar ring:

Medicine has long been cultivated with assiduity and attention, but is still capable of farther improvement. Attentive observation, and the collection of useful facts, are the means by which this end may be most readily obtained. In no age . . . does greater regard seem to have been paid to these particulars, than in the present. From the liberal spirit of inquiry which universally prevails, it is not surprising that scarce a day should pass without something being communicated to the public as a discovery or an improvement in medicine. It is, however, to be regretted, that the information which can by this means be acquired, is scattered through a great number of volumes, many of which are so expensive, that they can be purchased for the libraries of public societies only, or of very wealthy individuals . . .

No one, who wishes to practise medicine, either with safety to others, or credit to himself, will incline to remain ignorant of any discovery which time or attention has brought to light. But it is well known that the greatest part of those who are engaged in the actual prosecution of this art, have neither leisure nor opportunity for very extensive reading.

In the introduction (15), he goes on to explain how the new journal would help physicians to learn about “new discoveries, without the necessity of examining a great variety of books,” and thus help them to improve their practice:

**Figure 2. Portrait of Andrew Duncan Sr. by Sir Henry Raeburn, Royal Academy (1756–1823).**



Courtesy of the Royal College of Physicians, Edinburgh, Scotland.

Different periodical publications, intended as the annals of literature in general, are regularly published in this island. These literary journals contain an account of new books in medicine, as well as of those in other arts and sciences. They will, therefore, in some degree, answer the end here proposed. But they consist principally of characters of books; to prove the justice of which, excerpts from the books themselves are sometimes introduced. It is therefore evident that they can serve only to enable those who have leisure for reading to select the most useful publications.

A scheme, better calculated for saving time in reading, and expense in purchasing books, is a concise view of the books themselves. It cannot indeed be alleged, that, from this or any other plan, the same advantages will be obtained as from a careful perusal of original works. But, by this means, those who have not leisure for extensive reading, may easily become acquainted with every thing proposed as a discovery in medicine, and with the principal arguments by which it is supported.

Duncan pays tribute to the Leipzig *Commentarii*, which had begun publication 20 years earlier. He noted that *Commentarii* took little account of British books, however, and that it was not up to date, sometimes taking years to review the books it did cover. This lack of currency was exacerbated by the fact that issues of the journal were often available in Britain only a considerable time after publication. Duncan's introduction to the first issue of *Medical and Philosophical Commentaries* explained that his new journal would "comprehend four sections, treating of the following subjects: An account of the best new books in medicine, and those branches of philosophy most intimately connected with it; medical cases and observations; medical news; and a list of new medical publications" (16).

He made clear that, of these four sections, the first—an account of the best new books in medicine (rather like the abstracts of articles in *ACP Journal Club*)—was to be the principal feature of the journal. The fourth section of the journal was a kind of 18th-century *Index Medicus*. As "the editors" explained:

The last section will consist of a list of new medical books . . . for the satisfaction of those who may be deprived of other methods of information . . . , published, both in this and other countries, during the three preceding months. We cannot, indeed, pretend that this list will in any case be a complete one; but it will be our endeavour to render it as much so as our situation will allow; and we are hopeful we shall be able to obtain intelligence of every material book. (17)

### Sorting the Wheat from the Chaff

The first and many of the subsequent editorial prefaces during the first decade of publication of *Medical and Philosophical Commentaries* stressed the efforts made to be impartial, and they invited comments and suggestions for improvements from readers. This editorial policy was set out in the introduction to the first issue (18): "As it is not our intention to offer any opinion with regard to the general characters of the books, we shall, on every occasion avoid, as much as possible, either applauding or condemning any author. Our chief aim will be, to give such a view of books as may enable every reader to judge for himself."

At the beginning of the second decade of publication, however, "critical appraisal" of the books reviewed—like the commentaries on articles abstracted in *ACP Journal Club*—was introduced:

[Those] whose chief pleasure consists in the perusal of ingenious and useful publications . . . will now find our analysis of books interspersed with observations on the degree of credit which we think they deserve. Where . . . we have had occasion to differ from authors of the first eminence, our sentiments, though stated with freedom, are yet, we trust, expressed with that respect which is due to merit, and that diffidence which the nature of the subject demands: And this line of conduct, it is our intention steadily to pursue. (19)

The following year, the editors judged this innovation to have been a success:

We are happy to find, that the alteration we have made in our plan, by not confining ourselves to a mere analysis of new books, but by candidly offering our opinion of their contents . . . has met with the approbation of some of our most valuable correspondents. And we trust that those criticisms which are contained in the present volume, neither show a want of due deference to the assertions of others, nor inattention to facts. (20)

To understand what the editors rated important as "a discovery or an improvement . . . in medicine," (14) one needs to be aware of the approach then being taken by British physicians and surgeons who wished to find their way out of "the labyrinth of therapeutics" and improve "the evidence of medicine" (21). This quest included quantitative assessment both of procedures that had been in use, largely unchallenged, for centuries and of therapeutic innovations. This involved comparing groups of patients who had received different forms of active treatment, as well as comparisons with observations of the natural history of conditions in untreated patients. Examples included comparison of immediate with delayed amputation after limb injuries, and the use of cinchona bark (quinine) for "ship fever" and for "childbed fever."

These comparisons were made prospectively as well as retrospectively. Army and Navy institutions and the new voluntary hospitals and dispensaries afforded opportunities for research: There were large numbers of comparable cases, the hierarchical order of the institutions meant that patients were expected to obey instructions, and staff had to report results of treatment in numerical terms to administrative authorities. "The test of arithmetical calculation

ought not to be evaded,” wrote John Millar, a protagonist of this movement of “arithmetic observation,” in 1777 (22).

This “proto-statistical” enterprise was intended to encourage the adoption of new standards of evidence for inferring therapeutic success, and it deplored the common practice of relying on single case reports or excluding from case series those cases judged to have been treatment failures. These issues were discussed in 18th-century Britain and had relevance during an era in which there were quite a few innovations in both medicine and surgery (23–25).

It would require very detailed historical research to establish the criteria used by Duncan to choose books for review in *Medical and Philosophical Commentaries*, but there is no doubt that he supported these efforts to improve the methods used to assess the effects of clinical practice (8). Although the journal did not review the third edition of James Lind’s book (26) (which contained the celebrated account of his prospective trial of six remedies for scurvy) or Millar’s books *Practice in the Medical Department of the Westminster General Dispensary* (22) and *On the Management of Diseases in the Army and Navy* (27), it twice included John Clark’s *Observations on the Diseases which Prevail in Long Voyages to Hot Countries* (28), the second time with some very flattering remarks. Thomas Percival’s and John Coakley Lettsom’s investigations of mortality in and around Manchester, England (29), and at the Aldersgate Dispensary in London (30), respectively, were reviewed equally well, as were Matthew Dobson’s observations on “fixed air” in therapeutics (31) and William Black’s observations on smallpox (32).

Thomas Fowler’s and William Withering’s works were the subjects of repeated methodologic comments. On reading Fowler’s first book on tobacco (33), the reviewer thought that his manner of introducing this new medicine “may justly be considered as a discovery of very great utility” (34). He agreed with the author that still more facts were necessary, but concluded that whatever further workers would reveal, “Fowler was still entitled to much praise as a faithful and industrious observer” (34). Withering’s now classic *Account of the Foxglove* (35), which marked the introduction of digitalis for treating certain forms of dropsy (edema) and heart disease on the basis of a large case series, earned similar appreciation (36). Both authors were again quoted in relation to Fowler’s second and third *Medical Reports* on the effects of arsenic (37), and of blood-letting in acute rheumatism (38), respectively. Fowler received a rare and favorable comment: “We cannot

too highly applaud the industrious zeal with which he has endeavoured to render hospital practice subservient to medical improvement” (39). In a review more than 50 pages long, Gilbert Blane’s *Observations on the Diseases Incident to Seamen* (40) also received approving comments for addressing the necessity for mass observation, and extensive methodologic passages on “arithmetic observation” were reprinted completely (41).

Although most of the editorial prefaces in *Medical and Philosophical Commentaries* thanked those who had submitted clinical observations and solicited more such submissions for the second section of the journal, the principal focus of the journal remained the critical appraisals of books published in its first section:

Some ingenious friends, on whose approbation we put a high value . . . were of opinion, that too large a proportion of our last volume was occupied with the analysis of new books. In the present volume, this fault is not corrected . . . [We] flatter ourselves, that . . . candidly offering our opinion, respecting the facts and doctrines which new books contain, those even who are possessed of the original works, may still peruse our account of new books with pleasure and advantage; while to those who do not possess these works, this section of our publication must convey much useful information, which they could not otherwise obtain, without both considerable labour and expense. These considerations will, we trust, be a sufficient apology for still continuing our work on the former plan. (42)

What might have been the origins of this attack of Duncan’s editorial policy? Possibly, as today, some contributors of individual case reports may have been motivated to press for a change so that they would see their names in print. Yet Duncan stuck to his principle of concentrating on reviews rather than case reports. Even though sales of the journal had declined by 50% to some 500 copies per issue by the mid-1780s (10), the importance of the publication continued to be appreciated. For example, a writer in the *English Review* stated “Were it not for this periodical . . . how many observations of great importance, might never have made their progress beyond the narrow boundaries of a single practitioner in medicine” (43).

Was the decline in sales of the journal a consequence of the fact that, from 1781, it had moved from quarterly to annual publication? Beginning in the early 1780s, successive prefaces suggested that Duncan was finding it difficult

to devote the time necessary to fulfill his original ambition to provide, every quarter, an up-to-date source of reliable information for practitioners. This philanthropist had become engaged in other activities, too, that would have competed for the time he might have spent on the journal. In particular, he had founded and was practicing in a public dispensary for the poor in 1776, and he was actively publishing case series based on his experiences there (12).

In 1791, Duncan recruited the assistance of his son, Andrew Jr., and in 1796, under their joint editorship, *Medical Commentaries* became the *Annals of Medicine*, which followed the same editorial policy. In 1805, the new periodical, which appeared more frequently again than annually, was renamed the *Edinburgh Medical and Surgical Journal*. This suggests that there was a continuing need for this type of periodical. With the exception of dropping the words “*and Surgical*” in 1855, the latter lasted for another 100 years (44).

## Reflections

In our era, there have been echoes of Andrew Duncan’s recognition of the need for clinical research to meet high methodological standards, and his focus in *Medical Commentaries* and its immediate successors on critical appraisal of reports of clinical research rather than publication of individual case reports. Archie Cochrane (1909–1988), another Scot who was born and raised in a provincial town near Edinburgh, noted two centuries after Duncan that “It is surely a great criticism of our profession that we have not organised a critical summary, by speciality or subspeciality, adapted periodically, of all relevant randomised controlled trials” (45).

The results of individual studies should indeed be set in the context of the findings of all other relevant studies (46, 47), and, as was emphasized in the *Annals of Internal Medicine* more than a decade ago (48, 49), this process must respect scientific principles (50–54). Like Duncan, his heirs must confront the continuing challenge of ensuring that reviews of research relevant to clinical practice reflect current methodologic standards, and that they are kept up to date and correct (55).

Iain Chalmers, FRCPEdin

UK Cochrane Centre, NHS Research and Development Programme  
Oxford, United Kingdom OX2 7LG

Ulrich Tröhler, MD, PhD

University of Freiburg  
Freiburg, Germany D-79104

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**Requests for Single Reprints:** Iain Chalmers, FRCPEdin, UK Cochrane Centre, Summertown Pavilion, Middle Way, Oxford OX2 7LG; e-mail, [ichalmers@cochrane.co.uk](mailto:ichalmers@cochrane.co.uk).

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**Current Author Addresses:** Dr. Chalmers: UK Cochrane Centre, Summertown Pavilion, Middle Way, Oxford OX2 7LG, United Kingdom. Dr. Tröhler: Institut für Geschichte der Medizin, Stefan Meier Str 26, D-79104 Freiburg i. Br, Germany.

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