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## **EDITORIAL**

## Founding of the International Journal of Obesity: a journey in medical journalism

International Journal of Obesity (2015) **39,** 75–79; doi:10.1038/ijo.2014.77; published online 17 June 2014

It has now been 35 years since the first issue of the International Journal of Obesity (IJO) was printed. That time interval has seen major changes in the field of obesity research, and in the way in which this knowledge is collected and distributed. In this commentary, we will look back at the founding of the IJO and some of its growing pains during these years. As the two founding editors this is a welcome opportunity to examine the beginning of the journal and its growth and future within the broader field of medical journalism.

Medical journalism began when Gutenberg invented movable type and used it for printing bibles in the middle of the 15th-century. The rest, so to speak, is history. Except, of course that within the life of the IJO, the electronic age has markedly changed the way in which scientific information is retrieved and distributed, more about this later. To put the development of the IJO into perspective with these historical events, we will start with Gutenberg and move forward to the present time.

In the 50 years following the publication of the Gutenberg Bible in about 1456, printing presses and printing shops gradually spread throughout Europe. By 1500, a large numbers of classical texts from Greek and Roman times had been printed and widely circulated and a smattering of original books began to appear in print. From a scientific and medical point of view, the two most important early books from the first half of16th-century were De Revolutionibus Orbium Colestium Libri VI¹ encompassing the discoveries of Copernicus that the earth was in orbit around the sun, the heliocentric theory of the solar system and the anatomical work of Andreas Vesalius² titled, De humani corporis fabrica, both of which were published in 1543.

Most of the major printed contributions to science in the 16th- and 17th-centuries appeared in the form of monographs, syllabuses, pamphlets and textbooks. As the number of scientists increased throughout the 17th-century, early scientific societies were formed in England, France and Italy. These scientific societies became a focal point for meetings and correspondence about new scientific discoveries. For example, Antoni van Leeuwenhoek,<sup>3</sup> the great 17th-century Dutch microscopist published many of his original observations as letters to the Royal Society in London.

As scientific literature grew, so have the complaints about it. The frustration engendered by the steady and rapid growth of scientific journals has been reflected in the quotations from scholars over many centuries. Below are a few examples of these complaints:

In the 17th-century Barnaby Rich is alleged to have said (see ref.4 p 63) 'one of the diseases of this age is the multiplicity of books; they doth so overcharge the world that it is not able to digest the abundance of idle matter that is every day hatched and brought forth into the world.'

In 1755, the great 18th-century encyclopedist, Diderot,<sup>4</sup> stated the problem thus: 'the number of books will grow continually, and one can predict that a time will come when it will be almost as difficult to learn anything from books as from the direct study of the whole universe. It will be almost as convenient to search for

some bit of truth concealed in nature as it will be to find it hidden away in an immense multitude of bound volumes.'

In the 19th-century, Beddoes,<sup>5</sup> a leading physician made these comments about the 'excess' number of publications: 'you must needs hang your heavy head, and role your blood shot eyes over thousands of pages weekly. Of their contents at the week's end you will know about as much of a district through which you have been whirled night and day in the mail coach.'

And of course, the 20th-century raised even more concerns. Price<sup>6</sup> framed it thus: 'scientists have always felt themselves to be awash in a sea of scientific literature that augments in each decade as much as in all times before.' And Weissmann<sup>7</sup> added that: 'like beach bums, new journals appear in crops overnight... there are too many of them, they are published too often, they stare from the racks and reproach us for sloth.' Two well-known historians, Bynum and Wilson<sup>8</sup> said in 1992 '....it has been apparent for the past couple of centuries, that like books, the making of journals is endless.' Lastly, Loudon and Loudon<sup>9</sup> described the problem thus: 'today, when the excessive number of medical journals is a common source of complaint it is salutary to realize that even by the end of the 18th-century some were voicing the same concern.'

Scientific journals have grown logarithmically in number.<sup>6</sup> The number of journals has doubled every 10–20 years since about 1660 when the Royal Society was founded in London, and they have continued to grow logarithmically to the present, just as the number of scientists have grown logarithmically. As Price<sup>6</sup> notes: 'scientists and engineers are now a couple of percent of the labor force of the United Sates, and the annual expenditure on research and development is about the same fraction of the gross national product. It is clear that we cannot go up another two orders of magnitude as we have climbed the last five. If we did, we should have two scientists for every man woman, child and dog in the population.'

This logarithmic growth of journals is evident in the field of obesity, and this is summarized in Table 1, which is a list of journals with obesity in their title published since 1960. The first two journals (Journal of Obesity and Obesity and Bariatric Medicine) have ceased publication—a fate common to journals in all fields. The Advances in Obesity Research, which published the Proceedings of the International Congresses have also ceased publication as the electronic age and publishing costs collided. In the years since the IJO began publication in 1977, the number of journals has been doubling about every 10 years. The number of journals publishing papers specifically in the field of obesity has risen from 1 to more than 10. This is a reflection of a growing field with a robust need for publication outlets, as part of the overall logarithmic growth of the scientific enterprise.

The idea for the IJO was conceived at lunch in 1972<sup>10</sup> along the Rhine River by Drs Alan Howard and George Bray. At the time of this meeting, the first National Institutes of Health-Fogarty International Center-Conference on Obesity to be held in Washington in 1973 was well along in planning. During this memorable lunch we developed plans for the first International Congress on Obesity (ICO) to be held in London, England, in 1974 and the concept for a journal to focus on the field of obesity. Newman Publishing Ltd, the publisher of the Proceedings from the First ICO agreed to undertake publication of the IJO. Mr John



Year	Journal	Status in 2012	Publisher	Editor(s)	Association sponsor(s)
1964 1972	Journal of Obesity Obesity and Bariatric Medicine	Ceased publication in 1965 Ceased publication in 1984	,	Wilmer L Asher	None American Society of Bariatric
1974	Recent Advances in Obesity Research	Ceased publication in 1986	Bariatric physicians London, Newman		Physicans International Congress on Obesity
1977	International Journal of Obesity	Quarterly 1977–1981 Bi-monthly1982–1990 Monthly 1991–	Newman Publishers 1977–1978 John Libbey & Co 1979–1986 Macmillan then Nature Publishing 1987–	Founding Editors George A Bray, 1977–1982 Allan N Howard, 1977–1982 Per Bjorntorp, 1983–1989 <sup>a</sup> George A Bray, 1984–1992 Michael Stock, 1986–1997, Executive Editor 1990–2001 <sup>b</sup> Jean Pierre Despres, 1992–1999 lan Macdonald, 1997– Richard Atkinson, 2000–	International Association for the Study of Obesity 1986–
1981 1989 1982	Obesity and Metabolism Obesity and Health Journal of Obesity and Weight Regulation	Ceased publication in 1988 Ceased publication in 1994 Ceased Publication in 1990	Healthy Living Institute	Jonathan Wise  Jonathan Wise and Robert Sherwin	None Healthy Living Institute None
1991	Obesity Surgery	Quarterly then Bi-monthly	Rapid Communications of Oxford Ltd then FD- Communications	Mervyn Deitel 1991–2008 Scott Shikora, 2009–	A group of 32 National societies focused on bariatric surgery
1993	Obesity Research Obesity	Bi-monthly then monthly New Name Beginning in 2002	North American Association for the Study of Obesity	George A Bray, 1993–1997 F Xavier Pi-Sunyer, 1998–2002 Barbara Corkey, 2002–2007 Richard Bergman, 2008–2013 Eric Ravussin & Donna Ryan, 2013–	North American Association for the Study of Obesity
1994	Current Opinion in Endocrinology and Diabetes	Bi-Monthly Name Changed to Current Opinion in Endocrinology, Diabetes and Obesity in 2007	London: Lippincott, Williams & Wilkins beginning in 2007	Lewis E Braverman	
1998	Diabetes, Obesity and Metabolism	Bi-monthly	Blackwell Science (UK)	Alan Garber, 1998– Richard Donnelly, 1998–	None
1999	Obesity Reviews	Quarterly	Blackwell Science (UK)	Arne Astrup,1999–2009 David York, 2010	International Association for the Study of Obesity
2005	Obesity Management	Ceased 2009	Larchmont, NY: Mary Ann Liebert Inc	James O Hill	Centers for Obesity Research and Education
.006	Intern J Pediatric Obesity Pediatric Obesity	Bi-monthly New Name Beginning in 2012	Wiley-Blackwell	Louise Baur, 2006–2010 Michael Goran, 2011–	IASO
2007	Obesity Research and Clinical Practice	Quarterly	Amsterdam: Elsevier	Gary Wittert and Shuji Inoue	Asia Oceania Association for the Study of Obesity
2008	Diabetes, Metabolic syndrome and Obesity: targets and therapy	Electronic Source	Auckland, NZ Dove Medical Press	Ming Zou	
2008	Obesity Facts	Bi-monthly then monthly	Basel: Karger	Johannes Hebebrand	European Association for the Study of Obesity
2009	Surgery for Obesity and Related Diseases	Bi-monthly	Elsevier	Harvey J Sugerman	American Society For Metabolic And Bariatric Surgery
2009	The Open Obesity Journal	Electronic Source	Hilversum: Bentham Science Publishers	Eduardo Spinedi	Surgery
010	Childhood Obesity	Bi-monthly Formerly Obesity and Weight Management	Mary Ann Liebert Inc	David Katz	The Journal is in collaboratic with the American Association of Diabetes Educators, American Dietetic Association the American College of Sports Medicine, and the American Academy of Famil
2011	Clinical Obesity	Bi-Monthly	Wiley–Blackwell	Nicholas Finer	Physicians International Assoc for the study of obesity



Libbey, the Corporate Manager for Newman Publishing provided the initial support and enthusiasm needed. When Mr Libbey formed his own company, he continued to publish IJO under his own imprint of John Libbey & Company, through 1987. Although the Association for the Study of Obesity gave 'its wholehearted support' to the new journal, in retrospect, it is too bad that the journal was not initially owned by the Association for the Study of Obesity.

With Bray and Howard as the initial editors, the search was on for scientific articles. The first quarterly issue of the Journal was duly published in January 1977. The birth of a new journal in 1977 was not a guaranteed success. Before it could enter the list of journals included in the Index Medicus, the citation system of the National Library of Medicine, a journal had to be published for 2 or more years and then selected for indexing based on the quality and relevance of the journal to medical research. Thus, the earliest papers in a new journal are often difficult to cite because they are not included in the indexing services. This was compounded in the initial volumes of IJO by the lack of an index in the journal itself.

The journal was published quarterly for the first 4 years, but beginning with volume 5, it moved to 6 issues per year. In 1991, with the start of volume 15, the Journal began monthly publication. In an editorial in the first issue entitled 'the Age of Obesity' Howard and Bray<sup>11</sup> felt confident in stating 'obesity is the most prevalent nutritional disorder in developed countries, yet research on this condition has been much neglected compared with other diseases of civilization....'. Since the founding of this journal the prevalence of obesity has only become more severe.

Three notable events in the growth period of the IJO deserve mention. In the first issue a paper appeared on the use of a very low calorie formula diet for the treatment of obesity.<sup>12</sup> This formulation became the Cambridge Diet Company. As this program grew in size the competition with editorial duties increased. By 1982 it had become apparent that the IJO needed a process to select new editors. A Publications Committee was formed composed of Professor TRE Pilkington and Dr Paul Trayhurn from the Association for the Study of Obesity in England and Dr John Brunzell and Dr Marci Greenwood from the North American Association for the Study of obesity. They began the search for a new editor(s). 10 This ended with the appointment of Professor Per Bjorntorp from University of Gothenberg as Editorin-Chief in 1983. 13 In 1985 Bjorntorp noted in an editorial that 'in order to have the foundation of the Journal truly balanced, it seems desirable to have one of its legs firmly established on the American continent'. 14 He asked George Bray to serve as the Editor for the Americas, and Michael J Stock from the United Kingdom to serve as Executive Editor. After 7 years, Professor Bjorntorp had completed his term as Editor-in-Chief leaving to his successors a vigorous adolescent Journal. It was during his term that the International Association for the Study of Obesity (IASO) was officially formed and assumed the sponsorship of IJO from the English and the North American Associations for the Study of Obesity.

The second major shift for the IJO occurred in 1987. After the formation of the IASO at the 5th ICO in 1986, Dr Barbara Hansen negotiated a contract with Mr Libbey by which IASO would be the sponsoring Association and would provide the editors and editorial board. Two years later, in 1987, Mr Libbey sold the journal to the Macmillan Press. Unfortunately, the IASO Publications Committee and editors were only informed of the sale after its completion, and too late for the Association to make a bid for ownership of the Journal, an option IASO would have preferred.

Beginning with issue 7 in 1992, Dr Jean-Pierre Despres from Canada replaced Dr Bray as the Editor for the Americas and served from 1992 through 1999. At the same time, Dr Stock, the Executive Editor, added two other regional editors, Dr Yutaka Oomura from Japan and Dr Ian Caterson from Australia. The IJO finally reached

adult size when the journal went from smaller paper to the large size in 1993. In 1997 Dr Ian Macdonald joined the editorial team. The final editorial change occurred in 2000 when Dr Richard Atkinson from the United States replaced Dr Despres and when two new regional editors, Dr Shuji Inoue from Japan and Dr Kate Steinbeck from Australia replaced their colleagues. Last but not least, we must note the deaths of two of the original editors. Professor Michael Stock died in 2001 and Professor Per Bjorntorp died in 2003 following long battles with cancer. Their contributions to the IJO will always be appreciated.

A third major event in the history of this rapidly growing journal occurred when a new competitor emerged on the horizon. In 1991 the North American Association for the Study of Obesity decided that a new journal was needed to meet the growing need for publication outlets for papers in obesity research. Dr Bray became its first editor. In the context of a 10-year doubling time, the launching of Obesity Research and the surgical journal Obesity Surgery point out the continuing growth of this field. Today a search of the list of journals in the US National Library of Medicine using the topic 'obesity' reveals more than 20 journals.

As the volume of scientific literature has grown, so has the effort to catalog and study this literature; and obesity is no exception. Albrecht van Haller, <sup>15</sup> a great 18th-century physiologist, was one of the greatest bibliographers whose compilations of periodical literature helped him with his encyclopedic 8-volume work on physiology.<sup>16</sup> Two military surgeons, the German Adolph Carl Peter Callisen working in the early 19th-century and the American John Shaw Billings working in the late 19th and early 20th centuries, both prepared detailed medical bibliographies, and set the stage for the modern Index Medicus first in its written form and now in an electronic form. Callisen's 33-volume work was a definitive but difficult to use catalogue of the existing medical literature from 1780-1833, including both the secular and scientific journals of the period containing material related to medicine. <sup>17</sup> The Index Catalog of the Surgeon General's Library of the US Army<sup>18</sup> was begun by Billings, and served as the basis for the Cumulative Quarterly Index produced by the American Medical Association from 1916 to 1934 and the Index Medicus, which is currently prepared by the National Library of Medicine, now primarily in an electronic form.

Several studies have examined the history of medical periodicals published before 1800. 19-21 Garrison 22 tentatively listed 102 items comprising the list of 18th-century medical periodicals. Of these the preponderance were in German. Porter<sup>23</sup> has reviewed the development of medical journalism in Britain up to 1800. In contrast with the 17th-century, the quantity of scientific material in journals diminished during the 18th-century. The end of the 18th-century and the beginning of the 19th-century marked a watershed characterized by political revolutions in France and North America and by the appearance of 'modern' medical journals. In the latter part of the 18th-century, more than 30 journal titles had come and gone only to be filled by new ones. In the United States only a single journal, the Medial Repository, was founded in the 18th-century and it had passed out of existence by 1824. The basic content of these journals was formed from clinical cases and related material, numerous book reviews, some correspondence and scientific news.

In the 19th-century, journals also continued to come and go. They formed the basis for the spread of knowledge by making new information widely available. But how much knowledge should be available and to whom? How was the truthfulness of this knowledge to be maintained? Beddoes in the late 18th-century proposed a formula for 'greater diffusion of knowledge, and better medicine' (see ref. 23) But who was to decide on that knowledge? Quacks have always been present to take advantage of gullible individuals who are looking for the 'quick' cure or the overnight remedy. How was this to be controlled? censorship and governmental agencies were two possible solutions. As Porter<sup>23</sup>



asks, 'was the publishing doctor a public benefactor? or was he a self-serving self-publicist?'; how much should the public know? how much can they know, and can they effectively deal with what they hear or read? this has been an issue that is currently the basis of 'informed consent', a proposition that the patient is entitled to know all there is to know, whether he or she can understand and cope with it or not. This is a proposition that can be carried to unreasonable limits.

One approach to 'authenticity in publication' was taken by the Royal College of Physicians in the early 19th-century when it founded a journal whose contents were from its members and, thus, they presumed 'authentic'. But who is to check the checkers? other approaches were also taken, including what is now widely used and called 'peer review.' Such a method, however, has its limitations. Some of the most original ideas, for example, Arrhenius' theory of ions or the earliest work of Berson and Yalow on the radiommunoassay to measure insulin were initially snubbed and not published based on rejection by the 'peer-review' process. Entrenched interests in science and elsewhere can be a menace.<sup>23</sup>

Although the 'medical' journal appeared in the 18th-century, many of the features that are part of modern medical journals were absent and only appeared after 1800. In these early journals there were no editorials. Commentaries such as this one were unknown. The crusading journalism that became synonymous with Thomas Wakeley's editorship of the Lancet in Britain in the 1820s was missing. However, the medical press of the 18th-century was moving forward and was becoming the 'national bank of medical wealth' that Thomas Beddoes had encouraged.<sup>23</sup>

The 19th-century saw the development of medical journalism as we know it today. Bynum and Wilson<sup>8</sup> have reviewed medical journalism of this period in considerable detail relying in part on the work of LeFanu<sup>24</sup> and that of Loudon and Loudon.<sup>9</sup> LeFanu<sup>24</sup> identified 40 British periodicals that were begun in the period 1684 to 1799, and 672 that began between 1800 and 1899. Of the 511 that began publication between 1800 and 1889, only 87 were still being published after 1900 and most of these ceased publication in the 20th-century. In the first decade of the 19th-century fewer than nine medical journals were founded compared with nearly 130 in the first decade of the 20th-century. The life expectancy of these journals was often short. Why? one reason certainly must be the evolution and growth of medical and scientific subspecialization.

In North America, two journals that were born at the beginning of the 19th-century are still being published, but their fates have been very different. 25,26 One journal, originally called the Philadelphia Journal of the Medical and Physical Sciences, was founded in 1820 by Nathaniel Chapman, in part to vent his ire at the Edinburgh Review which said in an editorial, 'in the four quarters of the globe, who reads an American book? or goes to an American play? or looks at an American picture or statue? what does the world yet owe to American physicians and surgeons?'. The American Journal of the Medical Sciences, as this journal came to be called, was Chapman's answer and it is still being published.<sup>25</sup> Indeed throughout the 19th-century and the first half of the 20th-century the American Journal of the Medical Sciences has published many of the leading medical discoveries or breakthroughs, as the popular press refers to them. For more than 100 years it was one of the leading medical publications, only to languish after World War II.

A second journal that has survived from the early 19th-century is the New England Journal of Medicine and Surgery founded in 1812. After 15 volumes it was continued as the New England Medical Review and Journal, which was subsequently united with the Boston Intelligencer to form the Boston Medical and Surgical Journal, the forerunner of the New England Journal of Medicine. This journal is now among the most prestigious medical publications in the world. The fates of these two journals in the

post-World War II period may provide some lessons on the features of medical journalism that led to durability versus decline.

In his study of the features of a successful journal and its editor, Garrison<sup>27</sup> said, 'clearly, the best way to make his journal of permanent value, the best insurance for future perusal, is to make it the organ of some scientific medical society of good repute'. He goes on to say, '...the causes of the vast outpouring of medical periodicals in recent times, would lead us too far (afield). Although, one effect of this proliferation must be apparent: there is a struggle for existence among periodicals just as among peoples, animals and plants, and the race is not always to the strongest'.

For a variety of reasons scientists have a strong urge to write papers and a relatively milder urge to read them. How many papers can a scientist read and write? in a working lifetime scientists publish a range of original contributions. Many publish no papers, and an occasional scientist publishes more than a thousand. If a scientist, who publishes 100 papers in a lifetime, reads 100 papers for each paper that is published he/she would need to read 10 000 papers or more in a 40 year span, or more than one paper every working day. If a scientist reads 10 papers for every one paper he or she cites and there are 10 citations to the work of others in each paper, then he or she would have to read about 100 papers for every one paper published, or again about 10 000 papers in a lifetime. It is thus clear that we can only keep up with a few hundred other scientists and their work. Keeping up with more than 1000 becomes impossible. Enter the electronic age

Medical publishing has evolved rapidly during the existence of the IJO. Beginning as a traditional printed journal, the IJO has now joined the ranks of the journals that are available both as a printed journal and as an electronic version that is available on-line. The rapidity of access to electronically published journals and the use of electronic methods for retrieving information has greatly increased the ease of use and rapidity of access to medical journals and their contents. These electronic developments have brought with them some interesting problems whose solutions are not yet apparent. For example, one widely used electronic medium, the computer disc has a finite half life of some 10 to 20 years, less than the length of the time the IJO had been published. Equally interesting has been the rate at which electronic formats have improved and changed, leaving the older ones behind. Information stored in older formats that is not updated may get lost in much the same sense that Egyptian hieroglyphics were a lost language until the Rosetta Stone was discovered in Egypt allowing translation of old languages using current ones. Another problem is the disappearance over time of 'websites'. A recent survey examined the persistence of URL's (Uniform Resource Locator) that had been cited as a reference source in articles from widely cited journals. Within 3 months nearly 4% had disappeared, by 12 months, nearly 10% were gone and by 18 months 14%. There were no connections to other websites, meaning information on these URL's was no longer available to document statements in the original paper—the reference source was gone forever with no trace. One advantage of the printed journal is that copies remain in the library should the publication of new issues stop. This may not be true for electronic journals.

The growth of specialization in the 19th-century was reflected in the increased number of specialist journals. Specialist journals were virtually invisible at the beginning of the 19th-century, but had risen to the most frequently published journals by the 1870s. This trend has continued unabated with the explosion of even more focused journals, including the IJO. At the beginning of the 19th-century infant mortality among new journals was high. During the first half of the 19th-century a little more than half of the newly founded journals survived to the age of five. In the last quarter of the century, life-expectancy for journals was rising for both medical journals and for the population. Well over half of the



journals founded in this period lasted 5 years, and more than a quarter lasted for more than 50 years.8 In their review of 19thcentury journals, Bynum and Wilson<sup>8</sup> noted that successful iournals tended to have ambitious editors, co-editors, assistant editors and editorial boards. Typically a 4- to 10-year stint in the early to middle part of their career was the typical pattern for editors. Medical editing was not defined as a career because few if any journals had the financial resources. This changed in the 20thcentury when many large journals have full-time medical editors and editorial staffs. Of the journals with a long chronological history, several features stand out. A large number of the periodicals were based in a hospital, a medical school, or a medical society. These corporate entities provided the editorial boards that gave the appearance of safeguards that are supposed to guarantee fairness and accuracy to modern scientific journals. To quote Bynum and Wilson, <sup>8</sup> 'editorial boards gave the appearance of objectivity and respectability, even if they were sometimes no more than so much window dressing'. One challenge of the electronic age is to provide this base for nurturing journals and a process for assuring that the material that is 'published' electronically has some basis in objectivity that at least matches that of the printed journal. This is one of the big challenges for electronic journalism.

In the past third of a century, the IJO has come a long way in this exciting new era of publishing. By the 50th anniversary the way in which information is processed and made available to working scientists will probably be as markedly different as it is now compared with the beginning of the journal 35 years ago.

## **CONFLICT OF INTEREST**

The authors declare no conflict of interest.

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