

Editorial

Happy Anniversary JEB!

2004 marks an important milestone in *The Journal of Experimental Biology*'s history; it's 80th Anniversary. Founded at the end of 1923, the journal marked a new dawn in biological sciences. When many young scientists returning from the trenches were looking to break away from the previous century's fascination with anatomy and embryology. Enthusiastic for change, they began looking for new scientific challenges by developing experimental approaches. But a new approach to biology would need a dynamic young journal to spearhead the brave new world of biology; the *British Journal of Experimental Biology* was officially launched in October 1923.

Headed by the managing editor F. A. E. Crew, the first issues of the journal were organised by an editorial board of nine scientists, including the Nobel laureate Julian Huxley. Meanwhile, academic libraries, scientists and the curious (such as the novelist H. G. Wells) took the first subscriptions to the fledgling journal; even the News Editor of the Daily Express decided to get the news from the *Br. J. Exp. Biol.* But subscriptions alone were not enough to sustain the journal, and by 1925 it was in severe financial difficulty. Threatened with closure, the journal's future wasn't looking as bright as H. G. Wells might have predicted, until the biologist and entrepreneur G. P. Bidder stepped in.

First, he approached members of the recently formed Society for Experimental Biology, inviting them to pay subscriptions to the journal. But the SEB turned down the offer (Pantin, 1955). Instead, Bidder turned to his friends and colleagues to bail out the ailing journal, selling them £5 shares in a newly formed company, The Company of Biologists. Buying the

British JEB for £150, Bidder and the company moved the journal to Cambridge, where it resides to this day. According to C. P. E. Pantin at the time of the rescue, it became clear that F. A. E. Crew's steering committee was 'a wholly unsuitable substitute for an editor' (Pantin, 1955). Bidder resolved the

problem during a meeting held in his front room at home, where the new company's shareholders appointed Sir James Gray as the journal's sole editor and rechristened the journal *The Journal of Experimental Biology*. Since 1925, the journal and The Company of Biologists have been inextricably linked, and, although the company has diversified, ownership of the journal has never passed on to another organisation.

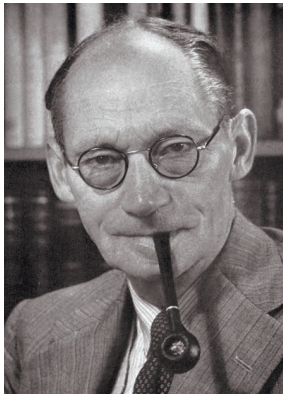
During the course of its history, the *J. Exp. Biol.* has only had five Editors in Chief, and each has made major contributions to the journal's content throughout their careers. Gray was no exception. His fascination with locomotion had established him as a leading zoologist and biomechanist, well before the journal was founded, when he solved a puzzling paradox that had intrigued many. Dolphin's bodies seemed to generate huge amounts of drag when towed through water, yet the creatures clearly scythed through waves effortlessly. How were the animals overcoming the effects of turbulence? Gray realised that the animals' aquatic agility could be attributed to tiny oil-filled vessels under the skin that deformed and prevented turbulence as the sleek animals swooped through the water. After death, the oil cooled, losing its amazing smoothing powers and generating the paradox.

Having taken up the editorship in 1926, Gray stayed with the journal for almost thirty years. D. A. Parry described Gray as 'a wise and beneficial autocrat,

		Brought-Forward		Subscriptions.	
		£			
1923					
Aug. 22	Dr. Whitley, Oxford	3	2		
	A. E. Boycott, Radlett	2	2		
	Dr. A. Murray, London	4	2		
	S. C. Dement, E. Comes	2	2		
	News Ed. Daily Express, London	4	1 10		
	R. H. Manon, Madrid	8	1 10		
30	Dr. F. W. Hardy, London	1	2		
31	Prof. Deason, Romsey	3	2		
Sept. 3	Guy C. Robson, London	1	2		
4	J. S. Huxley, Oxford	6	2		
5	National Bank			✓	
6	R. G. Allerton, London	1	1 10		
7	Dr. C. C. Saunders, Oxford	1	2		
13	Dr. H. A. Marshall, Cambridge	2	2		
	F. Bradshaw, Newcastle	3	2		
15	R. C. Punnett, Cambridge	2	2		
19	Prof. MacKinnon, Odessa	3	2		
24	H. G. Wells, Bournemouth	1	2		
26	Whitley, London	5	1 10		
27	Dr. H. A. Marshall, Cambridge	2	2		
28	Dr. H. A. Marshall, Cambridge	6	1 10		
	Prof. W. M. J. Russell, Cardiff	1	2		
29	Dr. Russell, Russell	3	2		
Oct. 1	Dr. H. A. Marshall, Cambridge	4	1 10		
	Cleveland, Ohio	1	2		
2	Dr. H. A. Marshall, Cambridge	10	1 10		
	R. R. Bates, do	2	2		
3	Veterinary College, Utrecht	1	2		
	Whitley, London	5	1 10		
	1 Part (per Copy)			✓	
Carried Forward		£	54 8		

A reproduction of the front page of the ledger which records the names of the first individuals subscribing to *The British Journal of Experimental Biology* in 1923. Including the names of scientists and institutions from around the world, the journal had sold 29 subscriptions within the first six weeks. One of the first was taken by the News Editor of the Daily Express newspaper in London, closely followed by two of the journal's earliest champions, J. S. Huxley and H. G. Wells. Some of the entries can be seen more clearly in the following pages of this article.

J. S. Well Sumner



Sir James Gray
Editor in Chief 1926–1955

[who] could be warm and encouraging to the young, but could also say 'no' firmly and finally when necessary'. Shepherding the journal through the paper shortages of the Second World War, Gray continued to administer the journal single handedly until he requested assistance in 1952. The company appointed J. A. Ramsay as the journal's second editor; Gray continued selecting papers for publication, while Ramsay skilfully edited the manuscripts.

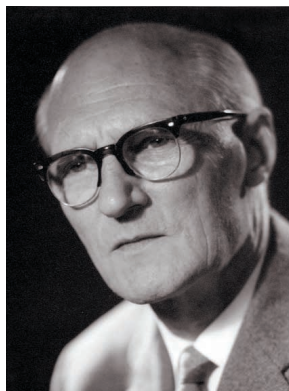
However, Gray finally retired from the journal in 1955, and Sir Vincent Wigglesworth was appointed as the second Editor in Chief, accepting on the condition that Ramsay continued working with him. The two embarked on a partnership that would last almost thirty years, and carry the journal into its fifth decade.



Professor J. A. Ramsay
Editor 1952–1974

Those who knew Ramsay remember him as formidable but fair. In addition to his editorial responsibilities, Ramsay also contributed to the journal, publishing much of his work on insect Malpighian tubules in the *J. Exp. Biol.* Applying his

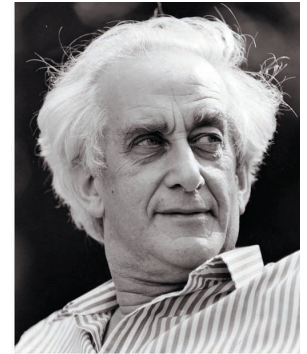
scientific ingenuity to develop tools and techniques, Ramsay provided convincing evidence that Malpighian tubules are secretory organs and are not pressure driven as had been thought. But, while Ramsay was a zoologist, the journal's second Editor in Chief was not. Wigglesworth had trained as an MD, and when he took an appointment at the London School of Tropical Hygiene and Medicine, he realised that he could indulge his passion for insect physiology with the disease-bearing species held at



Sir Vincent Wigglesworth
Editor in Chief 1955–1974

News Ed. Daily Express London

J. S. Huxley, Oxford



Dr John E. Treherne
Editor in Chief 1974–1989

the hospital. Of all the species Wigglesworth could work with, the blood sucking *Rhodnius prolixus* was particularly appealing. Knowing that the insect's cuticle development program was set when the insects fed, Wigglesworth realised that by simply feeding the insects a blood meal, he could synchronise them so that they all moulted at the same time; ideal for analysing the biological programs that directed *Rhodnius*, and many other insect's, development.

But by the early 1970s, both men were nearing retirement, and The Company of Biologists was faced with the problem of appointing the journal's third Editor in Chief. The company faced a dilemma; should the journal specialise in one aspect of biology alone or continue covering the broad range of disciplines that it had become associated with over half a century? Headed by D. A. Parry, the company decided to retain the journal's diversity and, in 1974 appointed John Treherne as the journal's third Editor in Chief (Parry, 1974).

Quickly stamping his personality on the journal, Treherne appointed a full-time secretary, Jean Wallis, to administer peer review, and two assistant editors, Elizabeth Howes and William Foster. Sandra Ray also joined the team as an editorial assistant, who copyedited every paper that appeared in the journal. Between them, Treherne's new team began smoothing manuscripts on their way through peer review and on into production. As an ambassador for the journal, Treherne travelled widely, representing the journal at meetings around the globe, initiating a unique series of meetings sponsored by the JEB, with the aim of attracting new authors and content to the journal. A tradition that is maintained to this day.

A talented insect physiologist, Treherne made the ground-breaking discovery that insects' brains have a blood-brain barrier, protecting the insect's delicate neural tissue from ionic fluctuations in the circulatory system. This breakthrough accounted for insect's phenomenal adaptability, allowing them to colonise almost every environment on the planet. But Treherne's tenure at the journal was tragically cut short in 1989, when he died suddenly at the age of 60 from a heart attack. It was a difficult time for all associated with the journal,

Veterinary College, Utrecht

Cleveland Med. Lib., Ohio



Professor Charlie Ellington
Editor in Chief 1989–1994

and Charlie Ellington was quickly appointed to step into the post (Shelton, 1990), where he was greeted by Jean Wallis with a mountain of manuscripts, all waiting for editorial attention.

By 1990, the submission rate had reached over 450 manuscripts a year, and Ellington realised that this was far too heavy a load for a single editor, so he introduced an Editorial Board to advise on referee selection. Introducing specialists from all branches of the journal, Ellington soon saw improvements in the journal's peer review. Keen to maintain Treherne's journal-sponsored meetings, Ellington invited the membrane transport physiologist Bill Harvey to join him as the Review editor. He also realised that the *J. Exp. Biol.*'s office technology needed updating, so he introduced the *J. Exp. Biol.* to the cyber revolution by retiring the FAX machine and Olivetti typewriter in favour of e-mail and electronic databases. And when Robert Boutilier arrived in Cambridge in 1992 to take up an appointment in the Zoology department, Ellington invited him to join the journal as an editor.

Ellington was the second biomechanist to lead the journal in its long history. Fascinated by the forces that keep insects aloft, Ellington's career has seen him analyse the fluid mechanics of flight from the bumblebee's tiny wings up to insects that are the size of small birds. And Boutilier's interest in acid/base regulation, respiration physiology and metabolic suppression has seen him expand the journal's ever-growing scientific repertoire by accepting the application of molecular biology to comparative physiology.

Remembering that he always saw himself as a facilitator, Ellington explains that 'the hardest job was breaking bad news to authors'. Keenly aware that every author whose article passed through his hands had invested much of themselves in the work he was reviewing, Ellington made a point of dealing with each manuscript personally. And when Ellington stepped down in 1994, Boutilier continued the journal's traditional personal touch.

As the fifth Editor in Chief, Boutilier has continued developing the journal in his own personal way, expanding the editorial team by appointing George Somero as the journal's first

J. S. Husley, Oxford

Veterinary College, Utrecht

international editor. Soon after, Malcolm Burrows brought his expertise in neuroethology to the journal along with Nathan Nelson and Hans Hoppeler who joined the editorial team to cover ion channel and muscle physiology. With a growing global editorial team to coordinate, Boutilier needed a single administrator to act as a central point of contact at the journal, 'almost a 'mother' figure' explains Ellington. And when Margaret Clements joined the journal in 1994, Boutilier knew he'd found the ideal person to deftly manage the journal's expanding peer review load.

More recently, Boutilier invited Peter Lutz and Andrew Biewener to join the editorial team, adding specialists in diving physiology and biomechanics to the current team of editors. Between them, they oversee peer review of more than 700 manuscripts every year, passing on accepted manuscripts to Rosemary Spencer and Michaela Handel, who copyedit the articles ready for publication. And finally, in early 2001, I joined the journal as the News and Views Editor, producing the magazine section at the front of the journal.

The journal's 80th birthday is a fantastic opportunity not only to look forward to the future but also to reflect on the journal's impressive past. During its eight-decade history, the journal has published many classic papers that are still cited routinely in the 21st century. But many of these papers are currently not easily accessible, so the *J. Exp. Biol.* has decided to redress this by launching a new section, called JEB Classics. Launching in January 2004, JEB Classics will feature the groundbreaking work of many of the great names associated with the journal's past, including Gray, Wigglesworth and Ramsay. Articles written by modern experts in the field will discuss the paper's impact on their own work and the field of biology. A PDF of the original paper will also be posted on the journal's website. In the first JEB Classics article in issue 2, Peter Lawrence discusses Wigglesworth's classic work on pattern formation in *Rhodnius prolixus*, when Wigglesworth established that the insect's cuticle could 'be used to study... local changes in development' and established developmental biology (Wigglesworth, 1940). We can't think of a more fitting way to celebrate the journal's past while looking to the future.

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H. G. Wells, Dunmow

A blue-tinted microscopic image of a cell, showing a large, prominent nucleus with a nucleolus. The cell membrane and various organelles are visible in the background.

Join Us Celebrating JEB's 80th Anniversary

In 2004 you will receive 26 issues of the journal, instead of 24, at no extra cost. So in our 80th anniversary year, subscribers will get two extra issues, free.

Also, from January 2004, the publication date will reflect the date of each article's publication online, reducing the current lag between acceptance and publication dates, and allowing us to accept papers for publication in each calendar year as late as mid-October.

We hope you'll enjoy the JEB's efficient service and extra issues in 2004.