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50th Anniversary Celebration Collection

The Evolution of *Drug Metabolism and Disposition*: A Perspective From the Editors

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ABSTRACT

This article was solicited to commemorate the 50th anniversary of *Drug Metabolism and Disposition (DMD)* and features perspectives from five former editors spanning the years 1994 to 2020. During that time frame the journal underwent significant changes in manuscript submission and processing as well as multiple generational changes in the composition of the editorial board and associate editors. A constant, however, has been the commitment to be the premier journal for publications of articles in the areas of drug metabolism, absorption, distribution, excretion, and pharmacokinetics. Advances in some of those areas during the past 3 decades have been monumental. Two cases in point involve cytochromes P450 and drug transporters. In 1994 rigorous characterization of human cytochrome P450 enzymes was in its infancy, there were no proven selective inhibitors, and the idea of solving a human P450 X-ray crystal structure was just a fantasy. Likewise, little was known about individual drug transporters. Today, detailed knowledge of individual human P450 enzymes and drug transporters is integral in drug design and drug discovery and in avoiding drug interactions. In the face of these huge advances in knowledge, each editor has been charged with maintaining the caliber and significance of the journal and its financial solvency while serving the needs of individual authors. We present 5 individual perspectives on the challenges and rewards of serving as *DMD* editor and hope that, by humanizing the job, we will encourage others to assume positions of responsibility in publication of society journals.

SIGNIFICANCE STATEMENT

The 5 most recent former editors of *DMD* describe their experiences and perspectives on the position in the context of constantly changing scientific emphases, technology, and publishing practices. The article offers subscribers, authors, and future editors and editorial board members valuable insights into the inner workings of the journal.

Introduction

Since its inception, *Drug Metabolism and Disposition* (*DMD*) has aspired to be the premier journal for publication of manuscripts in the areas of drug metabolism, absorption, distribution, excretion, and pharmacokinetics. We are indebted to the vision and hard work of the founding editor, Dr. Kenneth Leibman (1973–1983), and his successor, Dr. Vincent Zannoni (1984–1993), for establishing the journal's standing in the field and giving us a superb platform from which to work.

Impact factor as a measure of the importance of a journal in its field was introduced in 1972 by Eugene Garfield (Garfield, 1972). The significance of the impact factor grew as academic institutions and funding agencies gradually placed more and more emphasis on it as a criterion for evaluating scholarship and impact on a field. All of the editors of *DMD* have faced the common challenge of balancing the journal's impact factor with serving our scientific community, the importance of whose work is not always fully appreciated by editors of journals with a broader reach. There are 2 ethical ways to increase impact factor: be more selective about the articles accepted, and publish more review articles. The authors will describe their own approaches to this difficult challenge, but we all recognized that the primary measure of the value of *DMD* is its standing in the community that we serve, which is gratifyingly high.

Editors establish the criteria and policies of the journal, often in conjunction with the editors of the other American Society for Pharmacology and Experimental Therapeutics (ASPET) journals and the ASPET committee that oversees the society's journals, now the Publications Committee [formerly the Board of Publications Trustees (BPT)]. The editors report to this committee and conduct an Editorial Advisory Board (EAB) meeting at the ASPET annual meeting. They also

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ABBREVIATIONS: AE, associate editor; ASPET, American Society for Pharmacology and Experimental Therapeutics; BPT, Board of Publications Trustees; *DMD*, *Drug Metabolism and Disposition*; EAB, Editorial Advisory Board.

promote the journal at the annual meeting and in other venues, including social media in recent years. In the *DMD* workflow, the editor screens a submitted manuscript for its alignment with the scope of the journal and then assigns the manuscript to an associate editor (AE) with expertise in that area. The AE assigns 2 expert reviewers from the EAB and/or the broader scientific community served by *DMD* and makes the decision to accept, invite revision, or decline the manuscript. As a rule, each manuscript has 2 reviewers, but the AE may invite a third reviewer if the first 2 reviews are in conflict or if additional specific expertise is needed. Once the AE accepts the manuscript, the paper goes back to the editor for final approval of the decision.

A major determinant of the success of an individual editor is the ability to recognize emerging trends and ensure that the editorial board has the expertise to attract and review papers in those areas, so that the journal and the editorial board evolve with the field. Knowledge that an author's manuscript will be reviewed by people who understand the methodologies, subtleties, and impact of the work is a major advantage of publishing in a society journal rather than one managed by a professional editor. Evolving the editorial board (including the AEs) presents some challenges that will be discussed by the individual editors later.

In the tenures of Drs. Liebman and Zannoni, the editors established journal offices at their home institutions and staffed them. Manuscripts were sent to AEs and reviewers by US mail, and the reviews were returned in the same way. During Dr. Halpert's editorship, manuscript submission evolved from paper copies sent to a centralized Journals Office in ASPET headquarters, to electronic files, and finally to online submission. This afforded authors several advantages, including ease of submission and reduced times to editorial decisions and acceptance. Later, innovations such as software to check for plagiarism and image manipulation were introduced.

Going forward, *DMD* and the other ASPET journals will continue to incorporate new technological advances as appropriate. However, the heart and soul of the journal will remain the people who support it, ranging from the editor to the journal staff in Rockville, Maryland. In the body of this article, five editors spanning a period of almost 30 years present some of their personal experiences and insights about *DMD* and its role in the fields it covers. We hope that the accounts will be of interest and value to authors and reviewers alike and encourage future generations to take an active role in the critical work of scientific publishing.

Raymond F. Novak, 1994–1999

When Dr. Ken Moore called to ask if I would be interested in serving as editor of *DMD*, I immediately responded with an enthusiastic "yes." He then asked what my plans were to further advance the journal. There are many actions an editor can initiate, including organizational, procedural, and process changes and reforms. However, in the end the entire process of research, data collection and analysis, manuscript preparation, submission, review, and ultimately publication has the fundamental common denominator of multiple components of mutual trust and respect. When that trust/respect is violated, such as the case with doctored, fraudulent, or less than accurate data/data analysis or biased editorial manuscript reviews or decisions, substantial harm results not only to one person or group but to many, including industry, regulatory agencies, and those who may have their careers negatively impacted. Hence, the position of journal editor is critical and requires due diligence and fairness in examining the reviewers' and authors' positions and in rendering a final decision.

With this in mind, and in reference to my plans for *DMD*, I had several immediate thoughts, but I also had one stipulation for acceptance of the responsibility of editor. In terms of immediate action, I indicated that it would be necessary to eliminate the backlog of journal articles. At that time, there was a backlog of manuscripts already accepted for publication but which had yet to appear in print. This was, in part, the result of the journal being published every other month, i.e., only six issues were published per year with contractual page limitations for each issue. My position was that manuscripts that had been reviewed and accepted for publication needed to appear in print quickly and that the present publication schedule not only resulted in an inordinate delay and disservice to the authors but also negatively impacted the journal. This needed to be addressed immediately. Lastly, my own stipulation was that I would not serve as journal editor for more than two 3-year terms, because I felt strongly that an editor's position should be term-limited for the betterment of the journal.

To accomplish these objectives, it was necessary for the BPT to approve special editions of the journal and to approve the monthly publication of *DMD*. The BPT agreed to both requests. With respect to monthly publication, however, this agreement was approved only with an assurance from me that sufficient submissions would occur to warrant publishing a monthly journal issue. My making such an assurance was risky to a certain degree, but I believed that with organizational, procedural, and performance changes, the risk was minimal.

The "Instructions to the Authors" and "Instructions to the Reviewers" were revised to incorporate guidance on the preparation of manuscripts to be submitted, stringency of the review, confidential notes to the editor, and recommendations as to the overall quality of the manuscript. The number of AEs was increased immediately, and the EAB membership was progressively increased. Both accomplished the goal of quality improvement and expansion of the number of manuscripts and reviewers covering mechanistic, molecular, and cellular approaches to the various areas of ADME [absorption, distribution, metabolism, excretion]. Meetings with the AEs were held during the annual ASPET meeting to review progress and solicit comments/recommendations. All the above actions, in concert with the support of the BPT, were designed to improve the quality, growth, and competitiveness of *DMD*.

In the latter years of my tenure as editor, the BPT began to examine the viability of electronic manuscript submission and review. Meetings of the BPT were held in Bethesda, Maryland, to review various approaches and to examine the overall impact on ASPET journals, including associated costs and challenges. The electronic submission process was initiated toward the end of my tenure as editor and was subsequently continued under the next editor, Jim Halpert, who had also served as an AE.

I was very fortunate to have the support of ASPET, the BPT, and outstanding and enthusiastic AEs who were accomplished and well-recognized scientists and who were frank in sharing their thoughts with me, demonstrating leadership, and enabling the growth of *DMD*. I was also very privileged to have been able to work with members of an extremely talented and dedicated EAB. I thank the AEs and EAB personally for their roles in making *DMD* a premier journal for the various components contained within the categories of absorption, distribution, excretion, and elimination. These individuals made the challenging role of editor very rewarding. I gratefully acknowledge the efforts of Ms. Jacqueline Perry, Senior Journal Operations Manager, ASPET, for providing historical information.

James R. Halpert, 2000-2005

How I Became *DMD* Editor. Although I never consciously aspired to be *DMD* editor, I had purposefully positioned myself to be appointed AE a few years before. Early in my career as an assistant professor, I was contacted frequently by a wide variety of journals to do ad hoc manuscript reviews. I soon realized that no one was responsible for my

workload except me, and I decided to focus my efforts on a handful of journals and say no to the rest. In addition, I committed to doing each review well and with a very short turnaround time. Perhaps because of my discomfort with self-promotion, it took almost a decade, but I eventually found myself on the editorial boards of 5 journals of my choice. At that point, I contacted Dr. Ray Novak, then *DMD* editor, to inquire what he looked for in an associate editor and was rewarded with that appointment in 1997. From 1991 to 1995 I had served on the NIH Pharmacology Study Section (chair 1993 – 1995) and gotten to know Dr. Ken Harden, later chair of the ASPET BPT. While on the Study Section, I always did my utmost to write fair, thorough, and concise reviews and only to say as much as was needed to make my point. I was not totally surprised when Ken called me in 1999 to inquire about my interest in serving as *DMD* editor. The timing was suboptimal, because I had just assumed a new position as chair of the Department of Pharmacology and Toxicology at the University of Texas Medical Branch in Galveston. Nonetheless, I had learned previously that opportunity rarely knocks at a convenient time. In summary, by focusing my efforts, doing each job well, lobbying when needed, making important contacts, and recognizing a great opportunity when it came along, I found myself as *DMD* editor in January 2000.

Initial Challenges. Thanks in large part to ASPET's journals director Rich Dodenhoff at ASPET headquarters, and my editorial assistant, Mary Schlobohm, I was able to focus my own efforts on journal content and quality of the reviews. A perusal of reviewer performance revealed that perhaps one-fourth of the board members appeared to no longer appreciate that role, whereas perhaps an equal number of ad hoc reviewers had merited an appointment to the board. My first step was to promote some of the most distinguished scientists in drug metabolism to a Scientific Advisory Board with vague duties. This freed up a number of slots for new editorial board members. Less pleasant was offering the opportunity to other board members to step down, but I do not recall that anyone protested, and I was thus able to appoint additional new members based on their performance. I also recall appointing Dr. Jeff Stevens as AE based on the large number of reviews he had done as board member and short turnaround times. Of course, I was delighted many years later when Jeff became *DMD* editor. In any event, surrounding myself with excellent people was the best thing I did.

The Good Old Days? Once the online submission process was working smoothly, serving as *DMD* editor was truly a pleasure. I had been concerned that as editor I might be overwhelmed with phone calls from disgruntled authors, but I can only recall one during 6 years. In addition, changes in the drug metabolism field benefited the journal immensely. Previously, mechanistic drug metabolism (cytochrome P450) research had been dominated by biochemistry and associated journals. However, as the field of biochemistry changed and more and more entry-level drug metabolism positions in industry were filled by individuals with a biochemical background, *DMD* started to get more mechanistic manuscripts. It is also possible that my name recognition and that of the AEs and EAB members contributed to a greater number of such manuscripts being submitted. In any event, Journal Impact Factors rose during my tenure as editor from 2.513 to 4.015. The main lesson I learned was that good timing can be much more important than all the effort in the world.

The one perennial problem was journal finances. As I argued at every annual BPT meeting, the small size and specific focus of the journal meant that *DMD* would never have the economy of scale of *The Journal of Pharmacology and Experimental Therapeutics*. My basic argument was that ASPET should be able to absorb an annual loss of up to $50,000 to sustain the leading international specialty journal in drug metabolism, especially one that was so important to the pharmaceutical industry. One year I lost my composure and ripped up with great fanfare my reimbursement form for attending the BPT meeting. "If ASPET is so impoverished that it cannot support *DMD*, then I certainly don't want your money," I said. One attendee came up to me afterward and said that my outburst was very effective, because he had never seen me angry before. In any case, it is certainly a great source of pride for me that *DMD* is doing fine financially almost 20 years later.

More Good Timing. Having spent about a decade trying to interpret site-directed mutagenesis studies of mammalian P450 enzymes based on X-ray crystal structures of bacterial enzymes, I was ecstatic to see Pam Williams' X-ray crystal structure of rabbit CYP2C5 (PDB ID 1DT6) from the laboratories of Drs. Eric Johnson and Duncan McRee (Williams et al., 2000). By pure coincidence, this article appeared during my first week as *DMD* editor. The structure was enabled by groundbreaking work in Eric's laboratory on the engineering of a more soluble form of CYP2C5 that was amenable to crystallization (Fig. 1). Eric and

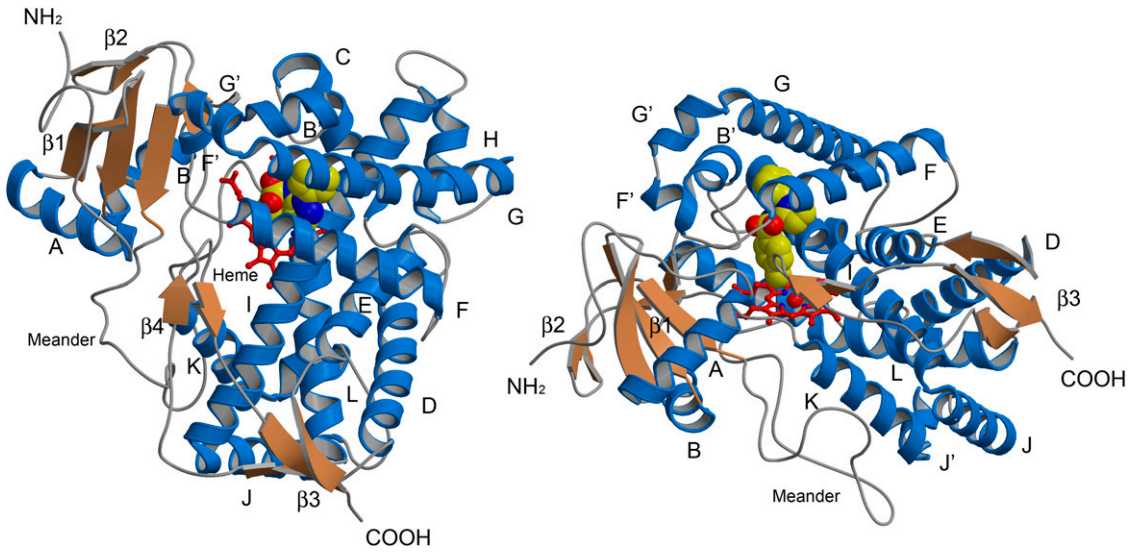

Fig. 1. Two views of the secondary and tertiary structure of CYP2C5/3LVdH with a substrate, 4-methyl-N-methyl-N-(2-phenyl-2H-pyrazol-3-yl)benzenesulfonamide (DMZ) bound in the active site (PDB: 1N6B). The face distal from the heme (substrate binding side) is shown on the left and a side view on the right. DMZ is rendered as CPK atoms with carbons rendered in yellow, and the heme is depicted as a stick model with red carbons. Helices are depicted in blue, and beta sheets are shown as copper arrows that are designated by letters and numbers, respectively, beginning from the N-terminus.

his collaborator Dr. Dave Stout were incredibly generous in sharing their wisdom with Dr. Emily Scott, who had just joined my group in 1999 as a postdoctoral researcher. In November 2003, toward the end of my first term as *DMD* editor, Emily published the structure of an open form of rabbit CYP2B4 (Scott et al., 2003). This was only the third structure of a mammalian P450 and launched Emily's illustrious independent career. Interestingly, Emily later became chair of the BPT, and Eric succeeded me as *DMD* editor. I will forever be grateful that choosing P450 for my postdoctoral work enabled me to get to know such outstanding scientists and individuals.

Eric F. Johnson, 2006−2011

My decision to apply for the *DMD* editorship was made after meeting Dr. Jim Halpert for lunch at the Experimental Biology meeting. Jim's vision for *DMD* and the journal's role in the international drug metabolism and disposition community was shared by me. Jim also brought me up to speed about changes in the workflow of the editorial office and the move to online handling of manuscripts. As a result, a secretary was not needed to handle paper manuscripts, and I could log in anywhere to complete my tasks (usually with my first cup of coffee in the morning).

During my tenure as editor, *DMD* passed through several milestones that included mandates by funding agencies for public access that were accommodated by limited quarantines of manuscripts and depositions to public databases. Additionally, the distribution of *DMD* and other ASPET journals transitioned from postal delivery to downloaded digital copies. These changes helped the bottom line and reduced the time from acceptance to publication. In 2008 we celebrated the ASPET centennial year, and Dr. Pat Murphy (Murphy, 2008a, 2008b, 2008c) documented the impact of publications in ASPET journals on the fields of drug metabolism and disposition in 3 installments in *DMD* to honor the centennial.

This period saw the rise of omics beginning with pharmacogenomics, the first draft of the human genome, and metabolomics, which expanded the characterization of the genes and proteins that underlie drug metabolism and distribution and prompted a need for additional AEs. Drs. John Schuetz, John O. Miners, Deepak Dalvie, Peter Swaan, Steve Leeder, and current *DMD* editor Xinxin Ding met that need with their expertise and excellent judgement. Additionally, Dr. Tim Tracy edited a special issue on the emerging field of metabolism and disposition of therapeutic proteins.

Many pharmaceutical companies assembled large databases for all the compounds they generated and began to use these databases to develop predictive programs for structure and function. As the structures of many of these compounds had not been disclosed, these studies could not be published in ASPET due to a mandate that the structure of any new compound needed to be reported so that others could replicate the reported findings. However, it would be exceedingly difficult for others to synthesize the enormous number of compounds to replicate these studies. With the help of the some of the AE, we drafted an exception that could be used in this case. The waiver might be granted if the manuscript provided sufficient numbers of published compounds to allow independent validation of the results and provided physical-chemical descriptors for the undisclosed structures such that readers could assess the validity of the analysis and conclusions.

It was pleasure to work with the members of ASPET editorial team during my term as editor. Journals Director Rich Dodenhoff and Managing Editor Jill Filler were knowledgeable and sources of good advice when problems arose. Editorial Coordinators Rhonda Frankenfield, Erin Salb, Courtney Beardsworth, and Mary Blackwood were helpful with workflow and coordination to minimize the time between submission, acceptance, and publication.

Edward T. Morgan, 2012−2017

The current *DMD* editor Dr. Xinxin Ding encouraged me to apply and nominated me for the position of editor. I came to it with 18 years of experience on the EAB and 5 years as an AE of *Molecular Pharmacology* and having served as an at-large member of the BPT for 5 years. I viewed the primary responsibilities of the editor to be to serve ASPET members and the *DMD* scientific community and to maintain and advance the journal's standing in the field so that authors would want to submit to the journal. Like all the editors before me, I wanted to try to maintain or increase the impact factor to attract additional submissions and new authors. The BPT suggested the idea of having themed issues, which was perfectly aligned with my thinking at the time. I also wanted to increase the number of mini-reviews, target the emerging field of metabolism and disposition of biologic drugs, take advantage of the burgeoning areas of drug transporters and physiologically based pharmacokinetic (PBPK) modeling, and increase international representation on the EAB to try to attract more foreign submissions.

Editorial Board and Associate Editors. Many of my initial goals for the journal necessitated expanding the EAB and introducing more expertise in areas of perceived need. In doing so, I also wanted to try to increase the diversity of the AEs and the EAB. However, because there was no fixed appointment term for EAB members and AEs, I found it awkward and unpleasant to ask colleagues to step down from roles they had performed for many years. Therefore, I made what I think was an important change for the journal by implementing 3-year renewable appointment terms for both EAB members and AEs, which has the added benefit of giving long-serving members a periodic opportunity to opt out if they want to do so.

I felt extremely fortunate in my first year to be able to recruit 4 outstanding new AEs: Drs. Wayne Backes, Chantal Guillemette, Mary Paine, and Bill Smith. To encourage submissions of papers dealing with biologic drugs, I also recruited Dr. Joseph Balthasar to be an AE. To attract more mini-review articles, I appointed a dedicated AE for mini-reviews, Dr. Nina Isoherranen in 2015, and later added Dr. Namandje Bumpus as AE. It's exciting to note that Drs. Bumpus, Ding, and Isoherranen will become president-elect, secretary-treasurer-elect and councilor of ASPET this year (2023), demonstrating how journal service is an important recognition and career booster.

To implement my initiatives, the buy-in, collective knowledge, and acumen of the AEs was needed. To do this, midway through my tenure I initiated a monthly teleconference with all the AEs, in which we would brainstorm ideas for themed issues and review articles, discuss and align criteria for acceptance and rejection of manuscripts, and sometimes discuss articles that posed specific challenges. I also asked Journals Director Rich Dodenhoff to implement a way for AEs who wanted additional input to make an editorial decision, to share the manuscript with another AE and get advice. I think that these moves were tremendously helpful and appreciated by the AEs.

Reviewers. Because the fraction of manuscript reviewers who were EAB members had slowly declined since 2003, I set out to expand the EAB and encourage the AEs to try to obtain at least 1 EAB member as a reviewer for each manuscript. In this way, the percentage of reviews conducted by EAB members increased from 33% to approximately 58% in my final years. Another important number for authors is the time from manuscript submission to the first editorial decision: through collective effort with the AEs and EAB we were able to reduce that time from 31 days to 24 in my final year of service.

Foreign Manuscript Submissions. Analysis in 2014 of the sources of manuscripts submitted to *DMD* by foreign countries revealed that annual submissions from China had risen more than 4-fold since

2005, whereas submissions from Canada, Germany, the UK, France, and Japan were flat or slowly declining (Fig. 2). To provide greater support for our Chinese authors and further encourage submissions from China, I gradually added 4 Chinese scientists and 7 US-based scientists with Chinese roots to the EAB. Encouraged by members of the AE and EAB (Ding, Yu, and Xie), I visited China in 2015 and 2016, giving research talks and lectures and also promoting the journal. The high regard in which *DMD* is held in China and the quality of science and scientists I encountered bolstered my commitment to expanding *DMD*'s reach in that country. I also appointed 6 new EAB members from other countries.

Outcomes. As noted above, I decided to target the burgeoning areas of drug transporters, biologics, and PBPK modeling as ones in which the journal could make an impact and therefore added new EAB members with the requisite expertise. We published 8 themed issues, which on average received significantly more citations than articles published in regular issues, and as noted above I appointed an AE for mini-reviews. I was delighted when, in my final year, *DMD*'s impact factor jumped from 3.21 to 4.24. Unfortunately, this was not sustained in the following 2 years in which the impact factors were still determined by articles published under my editorship. Nevertheless, the positive comments received about the journal wherever I went were encouraging, and I am proud that we were able to deliver an outstanding author experience by providing a convenient submissions process and expert, timely reviews while continuing to support the community's publication needs.

Other Issues. Addition of antiplagiarism software and, in 2015, image forensics were important developments in journal technology during this time. The journal began publishing Open Access articles in 2015, and discussion began in the BPT and ASPET Council about the impact of open access on journal submissions and financial stability. A national discussion about experimental and statistical rigor triggered changes in the journal guidelines and the appointment of 2 EAB members to provide advice on statistical treatment of data.

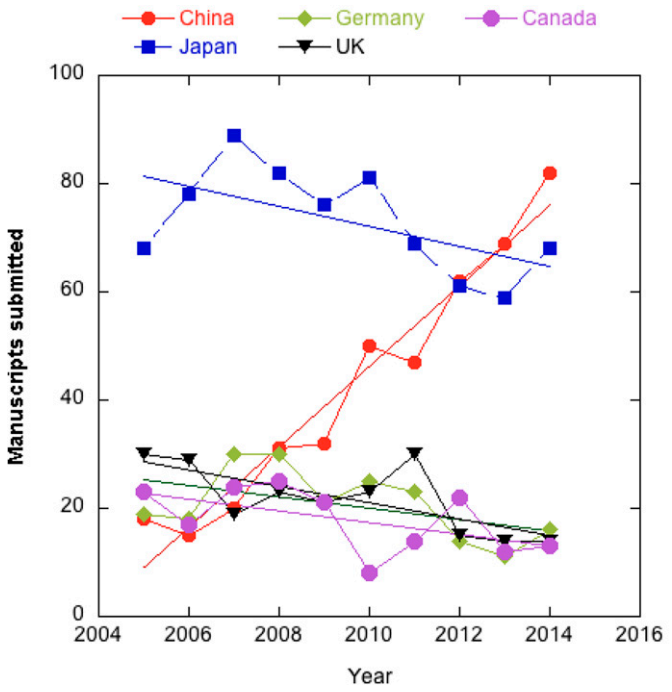

Fig. 2. Origins of manuscripts submitted to *DMD* from 2005 to 2014. From E. Morgan's 2014 report to ASPET Council.

People. I am indebted to the superb AEs and members of the EAB; to Journals Director Rich Dodenhoff, who was always looking to improve the technology available to us and to the authors; and to Senior Peer Review Specialist Mary Blackwood who was always available, professional, and helpful to both me and the authors. Getting to interact regularly with all these amazing, talented colleagues was possibly the most enjoyable aspect of being editor.

Jeffrey C. Stevens, 2018–2020

Early Exposure to ASPET Journals. The sum of the opportunities provided, the challenges faced, and the relationships formed over my 33 years as a scientist provided the foundation for the honor of serving as editor of *DMD*. In writing this perspective, I am reminded of an often-repeated saying among the modeling and simulation drug metabolism scientific community that "all models are wrong, but some models are useful." By analogy, in my professional life I encountered several obstacles bordering on dead-ends, but most experiences were ultimately useful in progressing my scientific career and ultimately enabling me to contribute as editor. By this stage in this article, the common challenges faced by *DMD* editors and the strategies available to meet them have been described well by my predecessors. As the only editor of *DMD* to work exclusively in the pharmaceutical industry, I have decided to take a different approach, namely to show the value of scientists from industry and academia working collaboratively. I hope my examples and comments encourage the next generation of scientists to view active involvement in scientific societies and journals as a critical piece of their professional development.

Looking back, my exposure to leaders in drug metabolism research through ASPET journals should be more accurately described as an immersion. When I was a graduate student in the laboratory of Dr. Jim Halpert at the University of Arizona in the 1980s, printed versions of ASPET journals were always available in the common office area. Our group carefully followed the work of many of the leading investigators working at the intersection of biochemistry and drug metabolism such as Drs. Fred Guengerich, Paul Ortiz de Montellano, Minor Coon, Eric Johnson, and Anthony Lu. These scientists, and most of the members of the subsequent *DMD* Scientific Advisory Board, were guests of the department during my graduate education and always shared a generous part of their schedule with the student community. In one situation during my early and formative education, my scientific enthusiasm overrode my natural shyness. While on a vacation in San Francisco, I decided to show up unannounced at the laboratory of Dr. Ortiz de Montellano, the author and editor of the iconic book *Cytochrome P450: Structure, Mechanism, and Biochemistry* (Ortiz de Montellano, 1986). I was curious to see his laboratory and discuss his research. Despite my awkward introduction and timing, he could not have been more gracious and enthusiastic while discussing the field of cytochrome P450. My field of study and ultimate career in drug metabolism was determined.

My Industry Career: Asking Forgiveness Rather Than Permission. Following graduation, the acceptance of a postdoctoral scientist position at Eli Lilly and Company in 1991 marked the beginning of a 27-year career with the pharmaceutical industry. Throughout my career, I struggled to balance my involvement with ASPET and ASPET journals with achieving the research and development objectives within major corporations (also known as my "day job"). Sometimes the integration of these goals was obvious, but other times it involved coercing the buy-in of managers and colleagues, and admittedly some faith in the application of the emerging technologies in drug metabolism being developed within academia. Frankly, there was frequently skepticism on both sides of the industry-academia fence that either side could contribute innovative

science that would mutually benefit both parties. The 2 most often cited barriers were confidentiality and terms of disclosure for publication. In my experience, both topics were not so much legal issues to be overcome but rather matters of trust and professional respect. I have several examples from my career where ASPET journals served as the convergence of that work and respect. In the late 1990s, 2 discovery compounds from my work at Rhone-Poulenc Rorer served as unique substrates to probe the structure-function of CYP3A4 (Stevens et al., 1999) and CYP2B6 (Domanski et al., 1999). From 2000 to 2003, while working at Pharmacia, an extensive collaboration with Dr. Ron Hines at the Medical College of Wisconsin resulted in 4 publications in ASPET journals that helped to explain age-dependent differences in drug metabolism. These findings were later incorporated into pharmacokinetic/pharmacodynamic models used by industry and the Food and Drug Administration to guide pediatric clinical trial design and drug labeling. Finally, a collaboration with Dr. Robert Tukey at the University of California San Diego demonstrated the utility of a humanized mouse model to predict human glucuronidation pathways (Cai et al., 2010). Although the collaborations with Drs. Hines and Tukey were interrupted by corporate mergers, I have always been grateful to all my collaborators for their friendship and scientific trust.

Progress as Editor: Getting By With a Little Help From My Friends. Ultimately, my professional network, experience as an associate editor of *DMD*, and member of the ASPET Board of Publications Trustees were formative influences for my role as editor. Eddie Morgan had left the journal in excellent standing, while providing me with the opportunity to transition some senior board members off and bring in scientific expertise in emerging areas such as large molecule drug metabolism and pharmacokinetics. The board and journal staff made significant progress in reducing review and processing time, and the increased social media presence of the journal was a success. However, with the pressing need for faster interaction among authors, staff, and the board, it became painfully obvious that the functionality of the BenchPress submission and processing platform in use by all ASPET journals since 1994 no longer met the needs of the journals. After extensive evaluation of new vendors, eJournal Press came online as the submission system in March of 2020. Among the difficulties with this transition was working between the legacy and new system for several months. That problem, however, paled in the face of the emerging COVID-19 pandemic. During this unprecedented time, work moved from laboratory/office to remote, and access to research facilities was severely limited. Undaunted, authors and reviewers continued to focus on the journal work at hand. I also hold the dubious honor of hosting the first *DMD* editorial board meeting by teleconference, on April 21, 2020. I will always remember launching the meeting from my dining room table and the happiness I felt to see and hear 50+ friends and colleagues from across the world, all putting aside the chaos of the time to participate in the meeting. For me, this event is a distillation of the spirit of *DMD* and an unforgettable experience with ASPET journals.

Conclusions

During the 27-year span covered by this article, *DMD* has undergone multiple transformations. In 1994 the journal was published in print only 6 times a year, and there was a backlog of accepted manuscripts. Today, the journal appears monthly and is fully electronic in all aspects from manuscript submission to publication. As described, each editor contributed successively to the modernization of the journal. Interestingly, while the technology was advancing rapidly, the challenges facing the editors were remarkably constant. The major ones were and remain (1) to recognize emerging trends and ensure that the editorial board has the expertise to attract and review manuscripts in those areas, (2) to balance the needs and interests of both authors and reviewers, and (3) to maintain the scientific integrity of all aspects of the publication process. We are gratified that each editor in his own way mastered these challenges and that collectively we were able to hand over the journal in excellent shape to its current editor Xinxin Ding.

Acknowledgments

The authors are indebted to the many associate editors, EAB members, ad hoc reviewers, and journal staff members who have allowed the journal to thrive over decades and thus made a 50th anniversary possible. The authors are also grateful to authors from all over the globe who have published their work in *DMD* and made it a truly international journal that covers virtually all aspects of drug metabolism and disposition.

Author Contributions

Wrote or contributed to the writing of the manuscript: Morgan, Novak, Halpert, Johnson, Stevens.

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