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**“AN OVERVIEW OF THE
RESEARCH LITERATURE”**

See “A Strategic Approach to Research Publishing in South Africa” (Academy of Science of South Africa , 2006), and “Scholarly Books: their Production, Use and Evaluation in South Africa” (Academy of Science of South Africa, 2009) both accessible at www.assaf.org.za

THE WORLD KNOWLEDGE SYSTEM

The world knowledge system exists through the explicit or tacit acceptance by virtually all participants of a set of principles which regulate the publishing of research findings or ideas:

- The reported findings must be original, the first report of such findings, as a whole or in parts. This most fundamental principle pre-supposes that authors submitting manuscripts containing new findings will have had access to the universe of relevant existing literature and will not knowingly suppress the fact that the same findings have in fact been reported before
- Reports must contain, or permit reference to, sufficient detail of the methods and materials used in the study to permit replication in the hands of other scholars
- Integrity of reporting requires that no inconsistent data are omitted, and that no fabricated or plagiarised data are presented
- The statistical treatment of data must be thorough and the conclusions reasonable

(WORLD KNOWLEDGE SYSTEM- CONTINUED)

- **The existing relevant literature must be appropriately and fairly cited; efforts are always made to ensure that reference is made to the first report of a finding rather than a later elaboration (see later, citation analysis)**
- **Special attention must be given to the first 'lead' author (sometimes explicitly shared), and the inclusion in the authorship listing only of persons who have contributed directly to the production of the work at an intellectual/conceptual level.**
- **Speculative deductions and postulations must be clearly specified and kept to a minimum.**
- **Acknowledgement of funding sources and possible conflict(s) of interest must be complete, and author affiliations provided which reflect both the period of the study and the present situation.**

(WORLD KNOWLEDGE SYSTEM- CONTINUED)

- **While priority is accorded from the date of publication of an article, not from its date of submission, i.e. the peer review must have already taken place, both dates should always be given in the published version.**
- **Post-publication detection of errors and falsifications must always be retracted in print in the same journal.**
- **Finally, there is a strong 'best-practice' rule that studies addressing a particular question should not be broken up into a series of scattered short publications but preferably be presented once as a full record of the work and its results (cf. modern approach to career evaluation= best publications only)**

The core role of the editor

The essential requirement is for responsible and fair editorial oversight, exercised to ensure that:

- **an editorial policy exists and is accessible to authors;**
- **submitted manuscripts are carefully examined with a view to suitability for the journal and, if suitable, for the selection of appropriate peer reviewers;**
- **reviewer reports are carefully assessed to decide whether, individually and summatively, they constitute the basis for the publication of the article in question, or whether publication should follow if certain improvements are effected and/or further work done and reported on, or whether the paper should be refused;**

Core role of the editor (continued)

- **special statistical review is sought, if needed;**
- **the focus of the journal is protected;**
- **misconduct is detected if at all possible (e.g. presentation of data, graphs or figures already published elsewhere; inconsistent data sets; plagiarism);**
- **errata and retractions are properly managed and made part of the record; and**
- **the journal as a whole contextualises reported findings in its editorial and supplementary sections (enrichment functions of journals)**

Peer reviewers

Peer reviewers have especially to:

- **scrutinise the methods and results in terms of consistency, interpretability and likely reproducibility;**
- **identify gaps that could or should be filled to enhance the interpretability and strength of the findings;**
- **suggest how the paper can be improved in terms of style, length and focus;**
- **assess the proper citation and referencing of previous studies (as outlined above the “principles” section), including the critical issue of the originality of the work;**
- **contest conclusions not justified by the results presented; and**
- **‘place’ the work in the existing matrix of knowledge in the relevant area or field.**

A GOOD SCIENTIST/SCHOLAR SEEKS TO :

- **publish work in journals that are respected for high standards of editorial discretion, peer review and accurate presentation;**
- **reach the largest possible readership (preferably everybody who matters to the authoring scholar), in order to achieve the five core functions of publication described by Roosendaal and Guerts (1997), namely those of registration, certification, making aware (inviting collaboration), archiving and reward- seeking; and**
- **undergo the discipline of the periodic publication of completed parts of work in a format that requires extreme rigour, reproducibility or results, appropriate reference to the work published previously by others, robust interaction with critically constructive reviewers and editors, and a tight relationship between the evidence presented and the conclusions drawn therefrom.**

IMPORTANCE TO THE BROAD SCIENTIFIC ENTERPRISE OF SUCCESSFUL PUBLICATION OF RESEARCH

- **It underpins research training in the most explicit way, as students or post-doctoral fellows cannot generally be assumed to be properly trained if original research results obtained during supervised study have not been published (ideally, but not necessarily, as first and primarily responsible author), in the full sequence of drafting - redrafting - submission-response to peer reviewers - editorial discretion applied – acceptance – publication.**
- **The completed process, preferably repeated many times, is the best guarantor of the kind of personal intellectual/conceptual growth that characterises a successfully trained and capacitated-for-life researcher. While research cultures and practice vary significantly between, for example, the natural sciences and the social/human sciences, the basic discipline of producing a formal, original publication, whether it be an article or a book, provides the same benefits.**



THE COMMON LIBRARY OF SCIENCE/SCHOLARSHIP : THE LITERATURE

Peer-reviewed publications are the 'open domain' of continued scientific progress through verification by others, (occasional but necessary) retractions and errata, citations and cross-references, and the building up of 'bigger and more accurate pictures', always subject to the test of 'consistency with hypothesis'.

SINGLE ARTICLES AND 'WHOLE JOURNALS'

- **A fundamental and practical aspect of journal content and size is the key issue of the individual article, standing on its own in a universe of other articles (as in a large contemporary repository), as against an article appearing in a particular issue of a journal devoted to different aspects of a discipline.**
- **While repositories are easily searchable through key words, and enable many similar articles to be traced along with a single target item, only journals regularly contain an assortment of current articles, grouped according to the topic/focus area of the host journal, permitting the habit to be developed of scanning laterally relevant articles that may contain keys to the opening up of methodological or conceptual cul de sacs in research projects otherwise anchored only in a particular topic's habitually narrow window of ideas. Experience teaches that journal size is a critical factor in this role – too many articles dilute or exhaust the scanning reader's attention, while too few leave expectations unfulfilled and approximate to the individual article situation.**

'INTERNATIONAL JOURNALS'

- **'INTERNATIONAL JOURNALS'** (i.e. those that are listed and indexed in important databases used internationally, and/or those which are distinctly international in terms of article authorships and circulation to subscribers and libraries) are generally the preferred targets for researchers.
- **LOCALLY PUBLISHED JOURNALS ARE ALSO 'INTERNATIONAL' IF THEY MEET THE ABOVE CRITERIA**

THE “ST. MATTHEW EFFECT”

The “BRADFORD PRINCIPLE” was originally used as a logical core driver for limiting the size of bibliometrically accessible journal databases (by which is meant the (eventually) self-fulfilling belief that a core set of high-quality journals (<20%) is responsible for most citations and, by implication, most value in the system (>80%).

There has been instability in the journal system as it grew, with increasingly intense competition for placement in the highest impact journals, expansion to saturation of the size (total articles) of these journals, increasing overflows to second-tier journals, and progressive narrowing of the gap between the ‘top group’ and next-most successful competitors, until the rising input flow and quality has begun to nullify the assumptions of the Bradford principle.

CITATION ANALYSIS

- **1955 Garfield: birth of bibliometrics**
- **Lists of references at end of articles become core data – captured in databases**
- **“A million acts of whimsy”!?**
- **‘Citation Rates’ of individual articles and ‘journal impact factors’:
‘windows’ - ‘half-lives’ – field specificities – now ‘altmetrics’ of single articles preferred, etc**

IS A RISE OF THE SOUTH POSSIBLE?

- **DEVELOPING COUNTRIES:** can they become significant publishers of (local but internationally accessible) research journals?
- **WG 'opinion piece' in SciDev.Net and 'Editorial' in "Science":** the case for regional/local journal systems
- **Example: SciELO:**
 - exportable system to new countries, but remains common system, interoperable, basic "rule-book" (Brazil office core to whole system)
 - now extends to other South/Central American countries, South Africa first from Africa
 - quality threshold for inclusion; monitored
 - e-publishing platform, full-text free online, fully indexed for citations, + other info.= informative +++
 - now part of 'Web of Knowledge' portal

A hidden “World war” in research publishing

- **Open Access (OA) – its time has come....**
- **OA Business models evolving for journals (“gold route”)= “author/institution pays” as ‘article processing charges’(APCs) most common; hybrid models also= choice**
- **Institutional repositories (“green route”) developing across globe, but publishers resisting.....funders insisting now**
- **BUT.....Highly profitable/monopolistic commercial multinational system entrenched: ‘pay (by subscription or APC or online fee) to read’**
- **Copyright issues very difficult.....**
- **Who knows the outcome? Will working market develop at last? Could be huge savings for the system.....**



Scholarly Publishing in Books

2009 ASSAf Report released:

Strong support for scholarly books

Typology suggested

Enhanced publishing system

Better credit by DoHET: 5, 7.5 or 10 points per book

**Substantive nature emphasised-
all disciplines**

DHET's Research Outputs Accreditation system for journal articles and scholarly books/conference proceedings

- **Higher Education Institutions only: Research outputs 'rewarded' as supply-side grant (within overall annual block grant) : graduated M and D students (c R 1 billion), and peer-reviewed journal articles, scholarly books/ book chapters and conference proceedings (c. R1 billion)**
- **Articles accredited if indexed in ISI-Web of Knowledge or IBSS (maybe +Scopus, SciELO soon), or if in S A journals on approved DHET 'list'**
- **Authorships 'fractioned' per S A institution participating: Full authorship unit = >R 100 000**
- **The accreditation function is critically important for the entire national system of innovation (NSI): it has to be credible, transparent, well-administered and generally promotive of higher standards and greater utility and significance, nationally and internationally.**

ASSAf Peer Review of S A scholarly journals

- **Grouped by discipline**
- **Peer Review Panels appointed**
- **Independent peer review (at least 3 per title)**
- **Consolidated reports published**
- **Recommendations for accreditation by DoHET; inclusion in SciELO SA; suggested support for international indexing; suggested improvements**
- **c.260 to be done by end 2015**