

ISSN supporting Australian newspaper digitisation

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Abstract

In this paper, the authors describe the work being done by the Australian ISSN Agency to support the National Library of Australia's newspaper digitisation program. The overall process, including the program's workflows and systems is outlined, as well as the role of the ISSN within the program. Challenges faced by The Agency, particularly ISSN assignment, cataloguing and collaboration are discussed and illustrated with specific case studies. Reflecting on lessons learned provides a valuable mechanism for future directions and the sustainability of providing this service.

Keywords: Australian ISSN Agency. National Library of Australia. Newspaper digitisation program.

Apoio do ISSN à digitalização dos jornais australianos

Resumo

Neste artigo, os autores descrevem o trabalho sendo realizado pela Agência australiana do ISSN no apoio ao programa de digitalização de jornais da Biblioteca Nacional da Austrália. O processo geral é descrito, incluindo os fluxogramas e sistemas do programa, bem como o papel do ISSN no programa. Os desafios enfrentados pela Agência, particularmente a atribuição de ISSN, catalogação e colaboração, são discutidos e ilustrados com estudos de caso específicos. Reflexão sobre as lições aprendidas oferece um mecanismo valioso para direções futuras e sustentabilidade na oferta do serviço.

Palavras-chave: Agência australiana do ISSN. Biblioteca Nacional da Austrália. Programa de digitalização de jornais.

Apoyo del ISSN a la digitalización de los periódicos australianos

Resumen

En este artículo, los autores describen el trabajo realizado por la Agencia australiana del ISSN en apoyo al programa de digitalización de periódicos de la Biblioteca Nacional de Australia. Describe el proceso general, incluyendo los flujos y sistemas del programa, así como el papel del ISSN en el programa. Los retos enfrentados por la Agencia, particularmente la asignación de ISSN, catalogación y colaboración, son discutidos e ilustrados con estudios de caso específicos. La reflexión sobre las lecciones aprendidas ofrece un mecanismo valioso para la dirección futura y la sostenibilidad en la prestación del servicio.

Palabras clave: *Agencia australiana del ISSN. Biblioteca Nacional de Australia. Programa de digitalización de periódicos.*

INTRODUCTION

The Australian agency was founded in 1973 as the Australian Centre for International Serial Data System (ISDS) located within the National Library of Australia (NLA). Following the formal establishment of the ISSN Network and the International Centre in 1975 it became known as the Australian International Standard Serial Number (ISSN) Agency and has continuously functioned within the NLA. Its main purpose is to allocate ISSN to contemporary Australian serial publications and secondly to cultivate positive ongoing relationships between the National Library, other libraries and the publishing industry.

The Australian ISSN Agency (The Agency) operates as part of the Pre-Publication and Digital Projects Coordination Team within the Australian Collections Management Branch of the NLA. The Team comprises Cataloguing-in-Publication (CiP) and the Australian ISSN Agency. The team manager is also The Agency's administrator and is supported by one full time officer and a part time officer. Additionally, assistance is available from

staff in the Australian Serials Cataloguing team when required. This staffing structure has enabled The Agency to build a comprehensive knowledge of the Australian publishing environment, maintaining the integrity of the ISSN standard and providing a single point of contact for publishers, ensuring the same information and criteria is applied to all publisher interactions.

In addition to working with the publishing community allocating ISSN to new and forthcoming serial publications, The Agency has an integral role in the Australian Newspaper Digitisation Program (ANDP), retrospectively assigning numbers to heritage newspapers.

ANDP began in 2007 and since the introduction of Trove, Australia's discovery service in 2008, digitised newspapers have been accessible to the public free of charge. It is estimated that over 7,700 newspaper titles have been published in Australia since 1803. As of April 2015, approximately 1,000 titles, totalling 15 million pages, have been digitised (NATIONAL LIBRARY OF AUSTRALIA, 2015).

Due to copyright legislation, the majority of digitised material is dated pre-1954. Prior to 2004, copyright on published material lasted for fifty years. However, in 2004, with the introduction of the Australian Free Trade Agreement with the United States of America, copyright was extended to seventy years on published material. The amended legislation does not apply to material published before 1 January 1955. Therefore material produced prior to that date may be freely copied and used, while material produced on or after that date requires permission from the copyright holder before it can be digitised (AUSTRALIAN COPYRIGHT COUNCIL, 2012).

Some titles still in copyright have been digitised where permission has been granted by the copyright holder. Among these are The Canberra Times which has been digitised up to 1990s and The Chaser published between 1999 and 2005 which will be the focus of a case study later in this paper.

Digitised newspaper titles each have their own catalogue record and are assigned an ISSN. The ISSN is used as the base structure for the digital files and through which cross checks can be made. ISSN was chosen for this purpose because its primary function is to uniquely identify titles and to link between title changes as well as linking issues back to parent titles. Using ISSN in this way has resulted in a seamless experience for users and provides a clear pathway for navigating each newspaper title, issue and page.

The Agency is responsible for assigning the ISSN and, together with serials cataloguers, provide full cataloguing for all newspapers digitised as part of ANDP.

The process of newspaper digitisation presents specific challenges for the Australian ISSN Agency that are different to the day-to-day operations. These will be outlined in this paper by examining the digitisation process, ISSN assignment, cataloguing and case studies.

BACKGROUND AND OVERVIEW OF WORKFLOW PROCESS

The Australian Newspaper Plan (ANPlan) established in 1992, is a collaboration between the NLA and the Australian state and territory libraries. It is designed to collect, preserve and provide public access to every newspaper published in Australia. Under ANPlan, primary responsibility for a newspaper rests with the state or territory of a newspaper's origin. The NLA is responsible for newspapers with a national scope and also has a shared responsibility for Australian Capital Territory (ACT) titles with the ACT Heritage Library (GATENBY, 2008).

COLLABORATION AND SPONSORSHIP

Digitisation of Australian newspapers comes from two main sources, the Australian Newspaper Plan and the Contributor program:

Under ANPlan, newspapers are selected for ANPD by the state or territory library with responsibility for the title. Members of the public are also invited to suggest titles for inclusion. These suggestions are recorded and incorporated into future projects in line with ANDP's selection policy.

The Contributor program is a way for individuals and organisations such as historical societies, state and local libraries to fund digitisation of titles. Contributors sign a Memorandum of Understanding (MOU) with the NLA and agree to cover the costs of digitisation. Contributors are also required to create a Wikipedia page outlining the details of the title, which feeds into Trove, providing users with background information about the newspaper. In return, the NLA undertakes the digitisation and manages the long term access through Trove.

(<http://www.nla.gov.au/australian-newspaper-plan>)

One of the key ways ANPlan is achieving its objectives is through the Australian Newspaper Digitisation Program (ANDP) which aims to “make freely available online through Trove [Australia’s discovery service], as many Australian newspapers published as possible” (NATIONAL LIBRARY OF AUSTRALIA a, 2015).

Before a newspaper can be digitised, it must be selected. Titles suggested by members of the public are recorded throughout the year by ANDP. At the end of each year a list is sent to each state and territory library who use it to nominate their selection preferences for the coming year. Final selection by all partners is based on the ANDP Selection policy. Historical significance, geographic coverage, content and availability of a suitable microfilm copy are all factors for consideration (NATIONAL LIBRARY OF AUSTRALIA b, 2015). Special themes also influence the selection process, for example the State Library of Victoria currently has a project to commemorate World War I and is digitising Victorian newspapers published between 1914 and 1919 (NATIONAL LIBRARY OF AUSTRALIA c, 2015).

Once titles have been selected, an electronic inventory detailing each microfilm reel of titles is provided to the NLA by the library who owns the master microfilm. ANDP staff review the inventory, search titles on the

Australian National Bibliographic Database (ANBD) and add extra titles when identified. The Agency is then notified and provided with the lists of titles. Catalogue records are created and ISSN are assigned. At the same time an ISSN may also be retrospectively assigned to the print version.

This is, however not always a straightforward process. Newspapers in Australia, particularly early papers from regional areas, appear to have the tendency for frequent and unexpected name changes throughout their life. Serials cataloguers will appreciate the complexities that these variations in titles cause.

The Figure 1 details name changes and corresponding ISSN for one newspaper. The title changed five times during the first 33 years of publication. This example highlights how crucial it is to review inventories and microfilm reels before the digitisation process begins. All titles are researched to ensure that title changes, variations and microfilming anomalies are detected. Title changes picked up in each microfilm reel prior to digitisation ensures correct ISSN assignment and management of the title through the process. Where multiple titles are detected on the microfilm reel, scanning contractors are directed to provide separate files for the different titles on the microfilm reel.

Figure 1 - Example of newspaper title changes

1827-39	Hobart Town Courier	1835-4742
1839-40	Hobart Town Courier and Van Diemen’s Land Gazette	1835-4750
1840-59	Courier	1835-4769
1859-60	Hobart Town Daily Mercury	1835-6729
1860-present	Mercury	1039-9992

To deal with such challenges, The Agency has devised a comprehensive workflow designed to identify and resolve potential problems prior to commencement of digitisation.

ISSN ASSIGNMENT WORKFLOW

- ANDP supply The Agency with the list of titles to be digitised every six months. Lists may contain up to 150 new titles as well as extensions to previously digitised titles.
- ISSN staff search for existing records on the NLA catalogue and the ANBD. Records are interrogated for useful information including existing ISSN, variations in titles, supplements and former and later titles.
- The microfilm reel is checked against the catalogue record to ensure all changes of titles and other anomalies are identified and resolved. This step has often revealed surprises such as images of lost or unknown newspapers. For example, amongst the reels of the *Bowral Free Press*, the previously unknown and uncatalogued *Intelligence (Bowral)* was discovered.
- ISSN records are created or existing records updated. This includes decisions about whether variations in titles constitute separate records or whether they are minor variations recorded in a single record.
- Print and microfilm versions are assigned one ISSN and a separate ISSN is assigned to the digitised version.
- Title lists are returned to ANDP annotated with ISSN assigned and catalogue record numbers.

SCANNING FROM MICROFILM

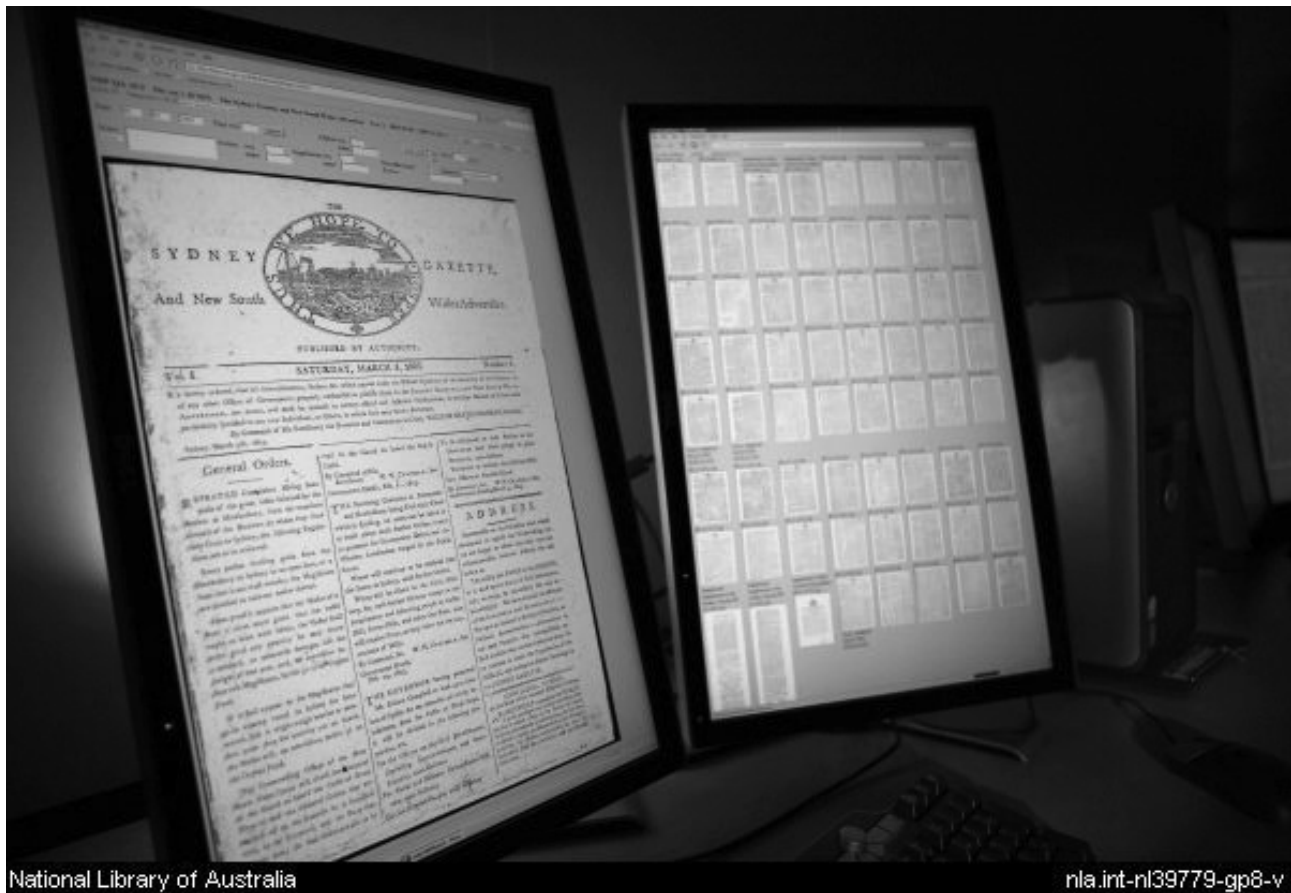
When the ISSN and cataloguing work is complete, the microfilm of the newspaper is sourced from the appropriate state or territory library and is sent to be scanned by an external scanning contractor. The contractors run the microfilm reels through a scanner, usually taking one image per page, although double page spreads can be created to maintain the integrity of articles or pictures that run across the centre of a double page.

Scanning creates two images for each page - greyscale and bi-tonal. The greyscale image is used for delivery on Trove. The bi-tonal image is used in the Optical Character Recognition (OCR) process, which will be outlined later.

The microfilm is sent back to the appropriate state library and the greyscale and bi-tonal images are sent to the NLA on LT04 data tapes. On receipt, tapes are loaded into a tape robot which extracts the data and ingests it into the Newspaper Content Manager (NCM) system, the in-house system for managing the post-scanning workflows.

During the ingest process a number of quality assurance (QA) checks are made to ensure the data meets technical requirements. Once ingested, derivative files are generated, from which manual QA checks are made on all the images. These checks include page orientation, image cropping, the number of images per page and image display on the screen. Rejected images are returned to the contractor for rescanning and accepted images are marked as ready for the next stage of the digitisation process (ONG, 2010).

Figure 2 - Cover of the Sydney Gazette: Australia's first newspaper published in 1803, as a digital image displayed on a monitor in the QA room



OPTICAL CHARACTER RECOGNITION

Upon passing manual QA checks, the bi-tonal files are sent to an Optical Character Recognition (OCR) contractor to convert into a full text file. Contractors set the page zones, create separate spaces for all the various categories of newspaper content such as news, advertising, lists and family notices. Contractors also manually type in the first four lines of each article. OCR'd text is not always accurate as the software cannot always read the newspaper font. This may occur if the original microfilm was not good quality or because text is indecipherable, manual typing insures against false search results. The manual process ensures

confidence that the initial four lines in the content are accurate and searchable. The remainder of the text on each article is then automatically OCR'd. OCR contractors transfer the metadata in METS/ALTO files, a standard for describing complex digital objects, to the NLA at which point a second QA process in undertaken. This involves a random sample of files being checked to ensure standards for metadata, zoning accuracy, categories and typing accuracy are met. A third stage of QA checks are made on two or three pages per newspaper issue which provides an adequate representation of the whole newspaper. Based on the QA, the file may be accepted or rejected. If rejected, the OCR contractors are required to correct errors and

re-supply the file (NATIONAL LIBRARY OF AUSTRALIA, 2015) (ONG a, 2010).

Files that are accepted immediately become available to the public in Trove. Members of the public can correct the OCR text to enhance access to the content for other users. This has been an extremely popular feature amongst Trove users.

Newspaper content manager (NCM)

The Newspaper Content Manager (NCM) system was developed in house by the NLA to support the workflows for the ANDP. It is the system through which NAPD staff perform QA, add and edit metadata about a title and track the progress of a title. It also functions as a delivery system, making data and images available on Trove. The system uses the ISSN to match and verify titles. ISSN is a technical requisite in NCM for scanned images to be ingested; therefore every title must have an ISSN.

Benefits of using the ISSN

As ISSN are unique they provide a risk management strategy ensuring that titles are not duplicated in the Newspaper Content Manager system. Using the ISSN enables clear tracking of newspapers through the digitisation process. It is instrumental in tracing titles in progress and those which are complete and it provides a standardised control mechanism to ensure that a title cannot be inadvertently digitised twice or assigned to more than one title.

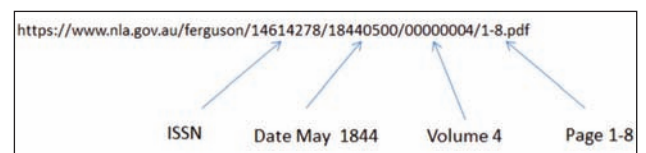
The NLA first embarked on newspaper digitisation in the 1990s with the Australian Periodical Publication 1840-1845; a project to provide access to digital copies of early Australian serial titles. ISSN was selected as the foundation structure of the digital

files due to its ability to provide a stable hierarchy and ability to link issues to titles (NATIONAL LIBRARY OF AUSTRALIA, 2015).

<https://www.nla.gov.au/ferg/issn/14614278.html>

The Colonization circular for example, has ISSN 1461-4278. This is used as the base for the file structure as shown below.

Each issue date, volume number and pages are then linked hierarchically to the ISSN.



The Figure 3 shows the print and digitised catalogue records for the Colonization circular. The two records share a single ISSN which was standard practice at the time this title was digitised.

Figure 3 - Print and electronic record share the same ISSN, as permitted under rules for assignment prior to 2011

Colonization circular [electronic resource] / issued by Her Majesty's Colonial Land and Emigration Commissioners	
Bib ID	97335
Format	Journal, Online
Online Versions	http://www.nla.gov.au/ferg/issn/14614278.html Broken link? let us search the Wayback Machine, ADWA, PANDORA or Google for you.
Description	London : (London : Charles Knight and Co., Printed by Order of the Colonial Land and Emigration Commissioners by W. Clowes and Sons). 1843-[1859] v. ; 19 cm.
ISSN	1461-4278
Series	Australian periodical publications 1840-1845.
Technical Details	Mode of access: Internet and World Wide Web. Available at: http://www.nla.gov.au/ferg/issn/14614278.html
Colonization circular / issued by Her Majesty's Colonial Land and Emigration Commissioners	
Bib ID	1141956
Format	Journal
Description	London : (London : Charles Knight and Co., Printed by Order of the Colonial Land and Emigration Commissioners by W. Clowes and Sons). 1843- v. ; 19 cm.
ISSN	1461-4278
Notes	<p>Caption title.</p> <p>Several eds. were published of some nos.</p> <p>Also available in a digitised form via the Internet at: http://www.nla.gov.au/ferg/issn/14614278.html</p> <p>Also available in microfilm. Balgowlah, N.S.W. : filmed by W. & F. Pascoe for Australian Co-operative Digitisation Project 1997</p>

CATALOGUING AND ISSN

Cataloguing conventions, as well as criteria for ISSN assignment, have evolved over the time that the NLA has been digitising newspapers. This section outlines some of the cataloguing challenges encountered and the ways in which they are resolved.

The Agency follows MARC 21 and, from 2013, Resource Description and Access (RDA) to create ISSN records that become part of the ISSN Register. Other tools include the ISSN Manual which provides a valuable source of instruction for ISSN elements and coding in MARC 21. The current version of the ISSN Manual is always used ensuring that new records created by The Agency conform to requirements for an ISSN assignment.

When the ANDP project was established in 2007, the ISSN was retained as the base for the file structure on the strength of its successful application in the earlier digitisation project.

The state or territory library holding the master copy of the microfilm of newspaper title applied for ISSN and also created full level catalogue records for the print, microfilm and digitised versions. The Agency incorporated this work into daily operational tasks. The task of assigning one ISSN per title, across print and digitised formats, was fairly straightforward and cataloguing complexities were resolved by the state or territory library.

In 2011, a change in ISSN assignment rules led The Agency and ANDP to review this process. At the 35th Meeting of Directors of ISSN Centres in 2010 in Boston Spa, U.K., a working group was established to gather information and make recommendations regarding recording data for

electronic archives and to “define a rule regarding the assignment (or not) of separate ISSN to digital reproductions of serials” (ISSN, 2011). The results of the working group were presented and voted on at the 2011 Directors Meeting in Sarajevo, Bosnia and Herzegovina. The recommendation to “assign a separate ISSN to a digital reproduction of a print serial...” was voted in favour (ISSN, 2011a).

Adoption of this change meant that a digitised version was no longer seen as a reproduction of the print version, but a format in its own right. This change had a direct impact on ANDP and changed the way the Australian ISSN Agency interacted with the project.

Assignment instructions for digital reproductions pre-2011

2.2.6 Reproductions and reprints

A Reproduction is a copy of an item and intends to function as a substitute for that item. The reproduction may be in a different medium (in micro or digital form) from the original but it is not a different edition in itself. The ISSN assigned to the original is valid for the reproduction; a new ISSN is not assigned to the reproduction.

(Section 2.2.6 ISSN Manual, 2011)

Assignment instructions for digital reproductions post-2011

2.2.6 Reproductions and reprints

Reproductions in a medium different from the medium of the original edition, including digital media, are eligible for ISSN assignment. Although eligible for ISSN assignment, reproductions in microform are generally not assigned separate ISSN. In these cases, the ISSN assigned to the original print version can be used for the reproduction.

Reprints and reproductions in a medium identical to the medium to the original edition are not assigned separate ISSN. The ISSN assigned to the original version is valid for the reprint or the reproduction

(Section 2.2.6 ISSN Manual, 2014)

Assigning an ISSN to a digitised version in addition to print led to a greater need for ISSN by ANDP. To manage this increased demand, a change in workflow was implemented removing state and territory libraries requirement to apply for an ISSN for each title. Instead, it was agreed that the ANDP team would make batch requests for ISSN and the cataloguing subsequently completed by the NLA Australian Serials team. This has resulted in very large workloads for The Agency with twice yearly demands placed on the team. To give an indication of the scale of work; between January and April 2015, 150 titles were selected for digitisation, resulting in 240 ISSN assigned and over 300 catalogue records written or upgraded. This was a significant accomplishment for three staff members while still maintaining their day to day operational activities.

In order to deal with this demand, The Agency has implemented a number of strategies optimising the staffing resources across multiple teams:

- Preliminary research and pre-digitisation record creation is shared across the ISSN Agency and the ANDP teams. This preliminary work involves checking the microfilm for mastheads from which the title and changes of title are formulated.
- Utilising staff expertise across the Australian Serials cataloguing team. Training multiple across The Agency and Australian Serials staff has proved beneficial and ensures that work is evenly disseminated amongst an expanded group and not dependent on one person.
- Final full level cataloguing is completed by Australian Serials cataloguing team on a project basis after digitisation is complete and all images are available on Trove.

- Negotiating with ANDP to give an extended processing time between notification of titles and the pre-digitisation deadline enabling a steady stream of work that can exist alongside the mainstream operations of the Agency.

- Close consultation between ISSN Agency and Australian Serials cataloguers to ensure metadata elements in descriptive and linking fields comply with local policy and ISSN assignment policy.

CATALOGUING

Creating ISSN records for newspapers has its own set of peculiarities with its complex mix of the unknown and ad-hoc changes along the way. As noted by Jones, serials are

born; they marry; they divorce (sometimes messily); they remarry; they may have – how to put this? – ‘informal’ relationships; they have offspring; and they die, sometimes quickly, sometimes in a slow, painful, lingering, degenerative fashion (JONES, 2013).

All these are realised in the world of historical newspaper collections. As a consequence cataloguers must ensure that navigating between related titles is as seamless as possible for the user.

Making use of MARC linking fields between former and later titles and between different media creates the desired user experience.

The Figure 4 shows the Evening journal which underwent two title changes in its life and now exists in three formats; print, microfilm and electronic digitised. There are three catalogue records designating each title change for each format. Linking must occur between titles and between formats. This is achieved through the MARC 7xx fields and the linking ISSN (ISSN-L) as illustrated below.

Figure 4 - Evening journal title changes

Title	Print ISSN	Microfilm ISSN	Digitised ISSN
Evening journal 1869-1912	2204-809X	2204-809X	2204-8103
Journal 1912-1923	2204-8138	2204-8138	2204-8146
Saturday journal 1923-1929	2204-8170	2204-8170	2204-8189

022 ## \$a 2204-8146
 130 0#\$a Journal (Adelaide, S.A.: Online)
 222 #4\$a The Journal \$b (Adelaide, S.A. Online)
 245 14 \$a The journal.
 246 17 \$a Evening journal
 530 ## \$a Also available in print and microfilm.
 776 18\$i electronic reproduction of (manifestation)
 \$t Journal (Adelaide, S.A.) \$x 2204-8138 \$w
 (AKIN) 24231803
 776 18\$i also issued as \$t Journal (Adelaide, S.A.:
 Microform) \$w (AKIN) 51643512
 780 00 \$t Evening journal (Adelaide, S.A.: Online)
 \$x 2204-8103
 785 01 \$t Saturday journal (Adelaide, S.A.: Online)
 \$x 2204-8189

A record cannot contain the same registered ISSN in both the 022 and a 776 field, this is because an ISSN can only exist once in a catalogue record. Therefore, the record for the print version can contain a 776 link to the record for the microform version, but the ISSN which they share cannot be added to the 776 \$x. If added, the record would be rejected from the ISSN International Portal.

For this same reason, the second instance of the 776 in the catalogue record above does not contain the \$x ISSN as it would be the same as in the first occurrence of the 776. Additionally a linking ISSN that has not already been registered in the Portal cannot be included in the record as this would also lead the record to be rejected.

ISSN-L

The ISSN-L brings together the different media versions of this title. The Journal, which is the middle title, has been assigned the ISSN 2204-8138 for the print version and ISSN 2204-8146 for the digitised version. The linking ISSN is 2204-8138 because this was assigned first.

ISSN-L 2204-8138

Printed version: The Journal (Adelaide, S.A. Print)
 = ISSN 2204-8138

Microfilm version: The Journal (Adelaide, S.A.
 Microform) = ISSN 2204-8138

Digitised version: The Journal (Adelaide, S.A.
 Online) = 2204-8146

TITLE CHANGES

Former and later titles of the newspaper are represented through the 780 and 785 fields.

222 #4 \$a The Journal \$b (Adelaide, S.A. Online)
 780 00 \$t Evening journal (Adelaide, S.A.: Online)
 \$x 2204-8103
 785 01 \$t Saturday journal (Adelaide, S.A.: Online)
 \$x 2204-8189

Relationships between title changes are shown by the 78x fields. They contain the preferred title for the former or later title and the corresponding ISSN. Former and later titles are necessary to facilitate searching to enable users to move fluently between

222 #4 \$a The Avoca mail
 245 04 \$a The Avoca mail
 246 37 \$a The Avoca mail and Pyrenees district advertiser
 246 37 \$a The Avoca mail and Landsborough, Moonambel, Redbank, Lexton and St. Arnaud advertiser

The Agency utilises a number of tools in order keep the cataloguing standards high. Figure 6 shows the ISSN cataloguing template for a digitised version of newspaper. It contains frequently used fields and phrases to ensure all relevant information is captured accurately at the time of ISSN assignment. Companion documents contain other commonly used phrases to facilitate copy and pasting into the ISSN record as needed (see Figure 7). This is particularly useful for microfilm records, where a MARC 530 field notes if the resource is available in an additional physical form is added to indicate that a print version exists. This is frequently missing

CATALOGUING ACCURACY

Maintaining cataloguing standards is of high importance as the quality of records impacts on them being accepted by the ISSN Portal and also the ease in which users can find resources of interest to them.

Figure 6 - Digitisation record template

Suppress from OPAC
 Leader: 00816nas a2200277 i 4500 006: m: o d
 005: 007: c: r mnl---annln
 008: 150130 c _ _ _ _ aca w r _ n e o _ _ _ 0 _ _ a 0 eng _ _

Tag	I1	I2	Subfield Data
022			‡a
040			‡a ANL ‡b eng ‡e rda
042			‡a anuc
043			‡a
130	0		‡a (Online)
222		0	‡a ‡b (Online)
245	0	0	‡a
264		1	‡a Canberra : ‡b National Library of Australia, ‡c 2015-
310			‡a
336			‡a text ‡2 rdacontent
337			‡a computer ‡2 rdamedia
338			‡a online resource ‡2 rdacarrier
362	0		‡a
530			‡a Also available in print and on microfilm.
653			‡a Australian
776	1	8	‡i electronic reproduction of (manifestation) ‡t ‡x ‡w (AKIN) (Print version details)
776	1	8	‡i also issued as ‡t ‡w (AKIN) (microfilm version details)
780	0	0	‡t
785	0	0	‡t
900			‡a ISSN record for Newspaper Digitisation.

Figure 7 - Companion document of regularly used phrases in ISSN records

For digitised newspapers where we also have a print and microfilm version:

On the digitised newspaper record:

#j electronic reproduction of (manifestation) [followed by t, x, w subfields with details of the print version]

#j also issued as [followed by t, x, w subfields with details of the microfilm version]

On the print record:

#j electronic reproduction [followed by t, x, w subfields with details of the electronic version]

#j reproduced as [followed by t, x, w subfields with details of the microfilm version]

On the microfilm record:

#j reproduction of (manifestation) [followed by t, x, w subfields with details of the print version]

#j reproduced as [followed by t, x, w subfields with details of the electronic version]

in older records. Together the catalogue template and companion document ensure consistency and accuracy in language and phrases and that the work is efficient and consistent for The Agency.

CASE STUDIES

The following case studies illustrate some of the challenges faced by The Agency in supporting newspaper digitisation and the ISSN and cataloguing decisions made in each case. They should not be taken as definitive practice, but rather an exploration of the various ways to resolve problems relating to specific scenarios for the purpose of resource discovery within the scope of digitised materials.

CHINESE ADVERTISER

The Chinese advertiser demonstrates the challenges of working with resources in an unfamiliar language and script.

Figure 8 - Chinese advertiser contains Chinese and Roman fonts



In August 2013 the Ballarat Central Highlands Library, the Sovereign Hill Gold Museum and the State Library of Victoria collaboratively proposed and funded digitisation of the Chinese Advertiser under the contributor model.

The newspaper was originally printed for the immigrant Chinese community who had come to Australia for the Victorian gold rush of the

1860s. The newspaper is an important document in Australian history, bringing to life the daily activities of the Victorian gold rush and interactions between migrant and colonial settlers. There are now only three known surviving print issues of the newspaper, each of which contains both Roman and handwritten traditional Chinese characters. These newspapers posed significant challenges for both the ANDP team and for the Australian ISSN Agency due to the complexities of working with unfamiliar traditional Chinese characters.

The initial problem was the absence of any existing record on the ANDB or at any other state or territory library. A basic print record and scanned PDF was found in the Victorian Central Highlands Library Service (CHLS) catalogue, however this record could not be imported into the NLA catalogue.

ISSN staff created print and digitised records by viewing the PDFs and using the CHLS record to check dates and title information. A member of the ANDP team fluent in Chinese also assisted with the cataloguing by translating the Chinese text. This ensured that the ISSN records were as complete and accurate as possible.

While this newspaper initially appeared challenging for the ISSN Agency due to unfamiliarity with the language, researching and discovering an existing source of information as well as utilising expertise of colleagues provided a means for accuracy of ISSN assignment.

THE CHASER

The Chaser demonstrates an unusual situation where two electronic versions of the newspaper contained different content and were assigned different ISSN.

The Chaser was a popular Australian television series specialising in satirical and political humour. Its core team of presenters also produced a website and newspaper to complement the television series. The print newspaper was collected by the NLA and the website archived in PANDORA, Australia's web archive.

The Chaser newspaper was put forward for digitisation under the contributor model by a founding member of The Chaser team, Julian Morrow. ANDP was keen to include this title in the collection however three immediate problems emerged; the NLA's holdings were incomplete, the copyright status required permission for digitisation and questions around whether to treat the website as an online newspaper.

The first two problems were resolved directly by Morrow by sourcing missing issues and donating them to the NLA. He also secured copyright permission which enabled digitisation to proceed.

The third problem, whether the website satisfies the criteria of an online newspaper, was resolved by The Agency in collaboration with Australian Serials staff. Scrutinising the print version and the website revealed both versions of the newspaper were issued simultaneously, but that the two versions contained different content. This meant that the print and online versions could each be allocated an ISSN in accordance with allocation guidelines in Section 2.2.3 of the ISSN Manual.

The current ISSN guidelines for online materials allow a single ISSN to be assigned to all online versions made available under the same title. However, in this instance the digitised version, which was reproduced from the print has different content

to the website version, the exception under 2.2.3b applies; assign a separate ISSN “if the content of the online versions is sufficiently different to be considered as separate resources” (ISSN, 2014).

CHASER (GLEBE. PRINT) = ISSN 1446-4195
 CHASER (GLEBE. INTERNET) = ISSN 1446-4209
 CHASER (GLEBE. ONLINE) = ISSN 2204-7735

This decision led to another problem; how to describe the digitised version and make it distinct from the online version. To resolve this problem, in addition to identifying each version with a different ISSN, the key title was qualified by *internet* for the website record and *online* for the digitised record of the newspaper. While this is not specified under Annex 7 of the ISSN Manual, in this situation it was the most appropriate way differentiate between the two different electronic versions of the same title.

AVOCA MAIL

The Avoca mail highlights the issue of amending legacy records within a shared cataloguing environment.

The Avoca Mail, which ran from 1863 to 1981, underwent a number of title changes in its life. Three microfilm records existed corresponding to these changes.

In 1863, the newspaper was called The Avoca Mail and Pyrenees District Advertiser, this changed in 1866 to The Avoca Mail and Landsborough, Moonambel, Redbank, Lexton, and St Arnaud Advertiser. All listed place names disappeared from the masthead in 1876 and returned with a substantially expanded list in 1877. Each of these titles had been treated as major changes and each

Figure 9 - The Chaser (Online) is distinguished from the website using the qualifier in the key title

Tag	I1	I2	Subfield Data
022			‡a 2204-7735 ‡i 1446-4195
040			‡a ANL ‡b eng ‡e rda
042			‡a anuc
043			‡a u-at—
130	0		‡a Chaser (Glebe: Online)
222	0		‡a The chaser ‡b (Glebe. Online)
245	0	0	‡a The chaser
264	1		‡a Canberra : ‡b National Library of Australia, ‡c 2015-
310			‡a Biweekly
336			‡a text ‡2 rdacontent
337			‡a computer ‡2 rdamedia
338			‡a online resource ‡2 rdacarrier
362	0		‡a [Vol. 1, issue. 1] (9th May 1999)- Vol. 7, no. 1 (2005 Feb.)
530			‡a Also available in print and online.
653			‡a Australian
776	1	8	‡i electronic reproduction of (manifestation) ‡t Chaser ‡x 1446-4195 ‡w (AKIN)20886632
→ 900			‡a ISSN record for newspaper digitisation

had a separate catalogue record with the entire title appearing in the 245 \$a title proper subfield.

The first decision for The Agency was whether to keep the catalogue records intact or whether to consolidate them into one title record. Ultimately the decision rested on three main factors; the long term maintenance of the serial catalogue record, digitisation workflow and convenience for the user. These factors indicated that a single catalogue record was the most appropriate way to proceed.

Figure 10 - Avoca mail masthead as it appeared on Friday December 31 1875



Figure 11 - The Avoca Mail consolidated record

Tag	I1	I2	Subfield Data
022	1		‡a 2203-3300
040			‡a ANL ‡b eng ‡c rda ‡d ANL
042			‡a anuc
043			‡a u-at-vi
130	0		‡a Avoca mail (Online)
222	4		‡a The Avoca mail ‡b (Online)
245	0	4	‡a The Avoca mail.
246	3	7	‡i December 11, 1863- September 1, 1866 ‡a Avoca mail and Pyrenees district advertiser
246	3	7	‡i September 8, 1866- January 4, 1876 ‡a The Avoca mail and Landsborough, Moonambel, Redbank, Lexton, and St Arnaud advertiser
264	1		‡a Canberra : ‡b National Library of Australia, ‡c 2015-
310			‡a Weekly
336			‡a text ‡2 rdacontent
337			‡a computer ‡2 rdamedia
338			‡a online resource ‡2 rdacarrier
500			‡a Subtitle varies.
516			‡a Text and graphics.
525			‡a "Supplement to the Avoca Mail" published with Friday issues in 1877.
530			‡a Also available in print and on microfilm.
653			‡a Australian
776	1	8	‡i electronic reproduction of (manifestation) ‡t Avoca mail ‡x 1030-5173 ‡w (AKIN)11359429
776	1	8	‡i also issued as ‡t Avoca mail ‡w (AKIN)6545448
900			‡a ISSN record for newspaper digitisation

This decision led to a complication in that the State Library of Victoria (SLV) and the NLA both had holdings on all three records on the ANBD. Consolidating records would require deleting a number of records which had holdings from both institutions and moving all holdings to the consolidated record.

The Agency informed SLV of the decision and the drivers behind them. SLV accommodated and agreed with the decision and made the changes to their records. However the situation highlights awareness of the importance of collaboration early in the decision making process. Developing professional relationships across institutions to facilitate record sharing on a national scale is vital to the success of large scale program such as ANDP. The Agency is in a position to facilitate this level collaboration between institutions to make shared cataloguing decisions to the benefit of all.

THE SOUTH AUSTRALIAN COLONIST AND SETTLERS WEEKLY RECORD OF BRITISH, FOREIGN, AND COLONIAL INTELLIGENCE

The South Australian colonist and settlers weekly record of British, foreign and colonial intelligence demonstrates a flexible approach to jurisdiction ownership of titles between national agencies.

The newspaper was published in the United Kingdom and the UK national centre has responsibility for the ISSN. The subject matter is of significant interest to Australia and as such the title is held at a number of Australian libraries including NLA and the State Library of South Australia amongst others. It is well used by family historians and historical research communities which was a factor in being selected for digitisation.

Figure 12 - Record from the ISSN Portal of the South Australian colonist and settlers' weekly record of British, foreign and colonial intelligence

ISSN	1461-426X
ISSN-L	1461-426X
Medium	Regular print
Key Title	South Australian colonist and settlers' weekly record of British, foreign and colonial intelligence
First or current publisher	London: William Cecil Huttmann.
Country of publication	UNITED KINGDOM
Dates of publication	1840 / 1840 dead
Frequency	Weekly
Type of publication	Periodical
Language	English
Title script	Basic roman
Title proper	The South Australian colonist and settlers' weekly record of British, foreign and colonial intelligence.
Abbreviated key title	South Aust. colon. settl. wkly. rec. Br. foreign colon. intell.
ISSN Centre	United Kingdom
Category	-- Register

Figure 13 - Trove's geographical coverage

Find an issue

by Title

- [1. The Sydney Morning Herald](#)
- [2. The Argus](#)
- [3. Northern Territory Times and Gazette](#)
- [4. Brisbane Courier](#)
- [5. The Australian Women's Weekly](#)


[Show all titles](#)

by Date

1803 ▼

JAN	FEB	MAR	APR			
MAY	JUN	JUL	AUG			
SEP	OCT	NOV	DEC			
S	M	T	W	T	F	S

by State

NT		QLD
WA		NSW
SA		ACT
TAS		VIC

This is the first time a non-Australian publication has been proposed for digitisation as newspapers on Trove are dedicated to Australian publications. This title, published in the UK, is out of scope for Trove. However, the proposing library positively argued that the content of the newspaper is within Trove's scope and is therefore eligible to be included.

This situation was also new to the ISSN Agency and responsibility for the ISSN needed to be established. Section 0.6.5 of the ISSN Manual provides instructions for this situation. The Agency obtained agreement from the UK national centre to take responsibility for the digitised version. In return they will add the linking fields into their print record.

0.6.5 Publications whose different medium versions are under the responsibility of different National Centres

National Centres that want to assign an ISSN to a medium version of a continuing resource that has another medium version to which an ISSN has already been assigned by another National Centre shall contact that Centre, copying the International Centre, in order to:

1. Verify that the National centre responsible for the medium version to which an ISSN has already been assigned agrees to a different National centre having responsibility for the new medium version;
2. Request this National Centre to create the appropriate linking entry (77 in MARC 21, 452 in UNIMARC) in its bibliographic record

(ISSN Manual, 2014)

With all parties in agreement to digitise the title and with Australian responsibility for the ISSN, South Australian colonist, and settlers' weekly record of British, Foreign, and colonial intelligence (online) is

making its way through the digitisation process and will soon be a valuable addition to Trove.

LESSONS LEARNED

Providing ISSN on a large scale is outside the normal parameters of The Agency and the experience of supporting ANDP has presented many challenges and problems along the way. Reflecting on what worked well and how each new problem was resolved has given The Agency a clear pathway to maintain the service into the future.

- Availability of microfilm enables thorough research into each title prior to digitisation. Viewing the microfilm is a valuable way of picking up title changes and anomalies, supplements, frequency changes and missing issues. Although it takes considerable time in the early stages, it saves time during the scanning and QA processes and the risk of finding an unknown title once the process has commenced is minimised.

- Collaboration helps build and maintain cohesive relationships with colleagues within the NLA as well as external stakeholders and enables decisions to be clearly communicated to all relevant parties. Developing good relationships with ANDP ensures priorities, timelines and expectations are understood and negotiated if necessary.

- Flexibility enables creative solutions solve complex problems. Learning from experienced colleagues and maintaining current awareness of cataloguing and ISSN assignment rules enables procedures to be adapted to meet the evolving needs of ANDP. Answers to new questions are often found by examining the ISSN Manual and

the International Agency is always available to provide guidance. Changes in assignment rules led to a major restructure of the ISSN workflows, this was challenging but achievable by being flexible and adaptable.

- Drawing on skills across teams provides The Agency with a well-balanced and diverse skill set ranging from language, cataloguing, workflow management and communication skills. Utilising staff language skills sensitively and courteously has many advantages including enhancing staff morale by recognising and appreciating individual abilities. Drawing on cataloguing experience and corporate knowledge gives a wider group of colleagues the opportunity to be involved in work outside of their day to day work to the mutual benefit to The Agency and the staff involved.

- Keeping in mind the End user informs much of the decision making. In particular, cataloguing decisions made with searching, retrieval and access in mind often provides simple solutions to complicated problems. Consolidating multiple records into a single record where appropriate facilitates users navigation of a title and The Agency only needs to maintain a single ISSN and record.

- Good planning and time management ensures that timeframes are met. Prioritising the work and distributing it amongst multiple staff in stages is key to successful completion without detriment to the daily operations of The Agency.

- Utilising Support from the International ISSN Centre ensures that ISSN assignment guidelines are correctly applied. Decisions are not made in

isolation, they form part of the network and the International Centre provides an authoritative source for resolving unfamiliar situations.

CONCLUSION

The ISSN enables the progress of titles through the digitisation process to be managed. As each ISSN is unique it provides an excellent risk management approach to ensure that titles are not duplicated in the Newspaper Content Manager system. Using ISSN as the base of the structure of the files provides a stable mechanism to hierarchically link each title to its volumes, issues and pages. ISSN is the most appropriate established system to achieve this as its primary purpose is to uniquely identify serial publications.

The aim of ANDP over the coming years is to continue to grow the number of digitised newspapers available on Trove. The Agency will continue to support this activity by assigning ISSN to heritage print newspapers and to newly digitised newspapers.

Experience over the last few years has shown that adaptability and flexibility in workflows is a key attribute in managing this work without detriment to the daily operations of The Agency. Training multiple staff to assist is essential to meeting the tight deadlines set by ANDP coordinators. This provides a valuable succession strategy and ensures that as new staff become involved lessons do not need to be relearned.

The Agency's involvement is also an opportunity for the national, state and territory libraries to manage the long term access to Australia's heritage

newspaper collections. By collaborating with colleagues within the NLA and in state and territory libraries around Australia, The Agency's activities in record creation and upgrades vastly enhances user access to these materials.

The ultimate goal is for the Australian public to have ready access to a wide variety of digitised newspaper content through Trove. The ISSN is one of the essential components in making this happen. The Agency works behind the scenes, the quiet achiever in an acclaimed national service.

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