HE TAU BETA PI catalog card system was designed to provide a permanent record of every member. The cards have changed a little over the years as more information was collected on each new member. However, the size of the cards remained at 3”x5” How far back they go is difficult to accurately determine, but research has provided some clues as to how the catalog card system developed.

The earliest reference to the current TBP catalog card system that can be located is the November 1906 issue of THE BENT where R.C. Matthews is credited as “editor of the catalog.” The 1906 convention, in fact, had required that each chapter maintain card indexes of their membership. No mention is made of a master catalog card file maintained at Headquarters. The January 1907 issue of THE BENT includes a quote from the PA Alpha Chapter that “Our ‘Card Index’ is progressing satisfactorily.”

The April 1909 issue of THE BENT includes a section entitled “The Catalog.” Here is a significant excerpt: “The catalog cards which have been gathered by the Secretary (R.C. Matthews) for the last three to four years are now in the hands of the chapters, being brought up to date, and if this work is promptly done, we hope to issue the catalog during the month of June.” This appears to indicate that the chapters were responsible for maintaining the cards and there was a central organizational maintenance of cards.

“No Inconsiderable Task”
In the 1911 issue of THE BENT, it is stated that the first catalog of the membership of TBP was issued in 1898. The “Membership Catalog” was a pocket sized book that contained the names of current members. The membership was reported as 430 members. R.C.H. Heck, PA A 1893, who was Secretary of the Executive Council, produced the catalog and found it to be “no inconsiderable task.”

The Membership Catalog was published several times after 1898. Additional issues were published in 1911, 1916, 1926, 1932, and 1939. The 1946 Convention discontinued publication, so the catalog of 1939 was the last one. The printing in 1911 was for 3,000 copies and even at the selling price of $0.25 the Association would still incur a loss of $200. THE BENT listed the catalog availability and pricing as “Cash sent well wrapped is preferred, though stamps will be taken. No objection will be raised if anyone sends us thirty-five cents for the book.”

Costs were a consideration in discontinuing the printed catalog. In 1946, the price of the 1939 catalog was just $0.50, and it is doubtful that covered publication costs. Evidence indicates that the effort involved in producing this catalog over the years was significant. In 1911, it was apparent that maintaining an up-to-date printed catalog, including new members, was an impossible task. Updating the catalog was a moving target that kept getting further away.

There were no computers to keep track of records and record-keeping had to be done manually. The catalog referenced
members in name, chapter, and geographical order. This had to be a daunting task as only lead-based typesetting existed then. Someone had to manually enter each name, more than once, into a machine. It is little wonder that the catalog was only published six times.

Typewritten Lists
In 1911, the efforts of an experienced stenographer were applied to the catalog with the creation of typewritten lists which were sent to each chapter. At the next convention, all the lists were found to be in order with the exception of one. The information from this chapter was considered “practically worthless,” with only a few old cards available.

In 1911, an appeal was sent to the 3,450 members with good addresses requesting up-to-date information. About 1,725 members returned completed catalog cards. After a second mailing, a 51 percent response rate was achieved. These cards were compared with those on file and any changes were made. A typewritten list was created, compared with the list and compared with the cards from the chapter. This process was done by Secretary Matthews with “his general information regarding the society being of great aid in detecting errors and discrepancies.” At that time, a member’s record consisted of three cards, each of which required maintenance by the organization. The first card contained the member’s full name, chapter, class, course, degrees, date of initiation, home or most permanent address, employment, business address, etc. The second card, known as the geographical card, contained name, class, chapter, position, firm, and business address. The third card, called the alphabetical card, contained the name with initials only, the chapter, and class.

From the research that was done and the documents that were located, initial record-keeping was inconsistent and primarily maintained by the chapter. Following the 1906 Convention mandate, R.C. Matthews developed the catalog card that was used for over 100 years. By 1911, the cards were finally stored at Headquarters where they remain today.

Over the years, little has changed except for formatting changes in the cards themselves. Early cards had no space for birth date which was added in the 1950s. The serial number was inconsistently used, renamed to chapter serial number in the 1960s, and removed completely in the 1980s.

Space for gender was added as women were admitted into TBP. The addition of space for email addresses reflected the changing technology and method of communication. It is interesting to note that Irving Heikes, PA A, 1885, our first member, as evidenced by his catalog card, was unsure of the year of his initiation date. The year was later determined to be 1885.

Long Overdue
The current catalog system was long overdue for a change as technology had advanced well beyond the manual typewriter and ink pen. In April 1967, Secretary-Treasurer Bob Nagel approached the computer center at the University of Tennessee about creating electronic copies. Sarah MacKenzie was hired to oversee the conversion. Information from the cards was manually entered on sheets that were arranged in two lines of 80 columns each. The information was key-punched onto computer cards by a firm in Corbin, KY, with two cards for each member. A computer program converted the information into the formatted member record.

The computer was an IBM S/360 system owned and maintained by the University of Tennessee with TBP renting time. Member information was limited to 132 characters which also happened to be the line length on a standard mainframe impact printer. Many coding tricks were used, such as a single field representing multiple values to enable as much information on each member to be captured electronically. At that time the number of membership records was 142,000 which all had to be manually copied from the catalog cards and entered into the computer system, a task that consumed slightly more than a year.

For two years after the cards were electronically encoded, little was done with the data. Nagel soon realized what could be done with the electronic information. Reports could be generated, lists of members produced, and members counted in various categories such as chapter,
gender, living, deceased, etc. A new age in record-keeping at TBP had arrived.

**Millennium Changes**

In 2000, the electronic member records moved from the UT computer system to computer systems owned and operated by TBP at Headquarters. The number of members had grown to 446,000. Green bar paper listings that were produced by the UT system of this final list of members from the IBM mainframe still exist today at HQ. Occasionally these listings need to be referenced to find information on members, generally for name changes.

In 2002, a new membership record system was developed by TBP staff that relied on web applications and upgraded database technologies. This allowed for better online member information, immediate changes to member information, generation of member lists, and capture of more information on each member. The ability to track historical changes such as address changes, name changes, and gender changes allowed HQ staff to better serve the needs of the members. The 132 character limitation imposed on a member's record by the old system were now removed.

While the member information had been computerized, the paper catalog card system still remained. Each elected candidate was required to fill out the 3”x5” card which was mailed to HQ. This card was stored in large filing cabinets that survive to this day. There are currently over 535,000 catalog cards in the cabinets.

When the online eligibility system was installed in 2000, modules were added that allowed for member information to be entered into a web interface and captured electronically. However, this was still a manually intensive process; it was very time consuming for larger chapters to enter catalog card information for each person. Candidates were still faced with providing information on a small card with very limited space.

**Stop Gap Measure**

As a stop gap measure, a system was devised around July 2005, that would export candidate information to a spreadsheet. This removed the tedium of entering the name and class year information which had already been gathered. The address of the electee was still required to be entered, and the use of a spreadsheet helped to do this.

However, paper catalog cards were still required and filled out by each candidate. Unfortunately, requested information was not always provided. Chapters distributed the cards to candidates, gathered the cards, and mailed them to HQ. Large chapters often experienced problems which could result in initiation delays.

After each initiation was entered into the system, it was necessary for an individual at HQ to review each catalog card against information that had been entered online. Anything missing had to be added, and other information corrected. This was a tedious process as many of the paper catalog cards were difficult to read and required some guessing, especially for email addresses. As you can see from the sample card on page 30, the information was sometimes difficult to read. (Some information on the card was intentionally blurred.)

Headquarters also faced another challenge. Over the past several years, the office has been the victim of three floods from broken water pipes that left several inches of water on the floor. It is a shock to hear a loud bang and suddenly see water running down the walls because of a ruptured water chiller line. Because of the flooding, blocks were added under the cabinets to minimize any future water damage. The Dougherty Engineering Building, where HQ is located, has also experienced a fire that resulted in several millions of dollars in damage. Fortunately HQ was not in the area that burned and smoke damage was not an issue due to Headquarters’ independent ventilation system. The events were a wake-up call that paper records are indeed vulnerable.
**Last Difficulty**

An additional problem is the cards are paper which deteriorates over time. The picture below illustrates the impact that aging has had on the cards. With roughly 9,000 cards added each year, storage of the cards also poses a problem. HQ is taking steps to resolve this issue for existing cards by having them scanned and stored electronically. Electronic catalog cards were the only viable long-term solution to these issues.

In Spring 2012, TBP began to implement a fully electronic catalog card system. Beyond the goal of making the process easier and solving card storage problems, additional information is being gathered from the candidates in the process.

The process of converting to electronic catalog cards required some non-trivial changes to the chapter reporting system. Items being added included the birth date and email address. Email is of particular importance because TBP is moving more toward online communications instead of paper mailings at the request of our chapters. More than one email address can be provided in the new system. Because all the information would be entered into the system by the electees, the ability to edit information was necessary to validate details and to prevent submission of cards with incomplete information.

The first change in the reporting process is the email address of the eligible candidate is now collected at the start of the eligibility process. The email is not mandatory at this point, but not having the email address puts the burden on the chapter officers to individually enter it. This can be done at the time of election, but is only necessary for those candidates that have been elected and accepted election (a Tau Beta Pi electee).

**Other Changes**

A much needed change included the separation of the first and middle names which was implemented in the membership system in November 2012. The current system had the first and middle name in the same field because of the legacy data systems limitations, in particular the 132 character limit. That design shortcoming was carried over into the new web-based system for backwards compatibility reasons. Along with this change, a preferred name was added as an optional field.

It should be pointed out that the membership records and the eligibility system are two separate systems with separate databases. This is done to protect member information as the membership system does not allow access outside the confines of HQ. Information from the eligibility system is transferred to the membership system when reporting is completed for a chapter’s reporting period. Changes to the eligibility system will bring it in line with the membership system.

The ability to export and import a catalog card spreadsheet has been removed. It was a kludge and not an ideal method for capturing data. With implementation of the electronic catalog cards, this capability is no longer needed. Chapter officers now have access to a screen that will list all electees and card submission status. The officers control when emails are sent to electees, and reminders to complete the cards can also be sent. The ability to add a custom message to the outgoing email is also provided. As a result, all electees will receive an email with a unique personalized link to complete their own catalog card.

**Added Benefit**

This has an added benefit—the officers doing the chapter reporting does not have to enter catalog card information, it will now be completed by the candidates. Chapters no longer need to distribute paper cards, gather the cards from the candidates, and ship the cards to HQ. This should eliminate several days from the reporting cycle.

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**Send THE BENT to Me**

(Visit www.tbp.org/pages to pay by credit card, or detach and mail to: Tau Beta Pi, P.O. Box 2697, Knoxville, TN 37901-2697.)

- I enclose $60, for which I shall expect to receive THE BENT for life. I will keep you informed of any change of address.
- I enclose $12.50 as the first payment for a BENT Life Subscription. Remind me to send $12.50 each year for the next four years.
- I enclose $10, which will keep me on the mailing list of THE BENT for one year. I should appreciate an expiration notice a year from now, so that I may renew without missing any issues. (Note that you may call 865/546-4578 to pay by credit card.)

Name ___________________________ Chapter __________ Class ______
Address ________________________________________________________________ Email ________
The resulting screen presented to the electee is obtained by clicking on the link in the email. It was necessary to include information embedded in the link that uniquely identified the individual. After careful testing, information was included to ensure that it is valid. Finally, the link had to provide information that would indicate if it had been corrupted or an attempt was made to gain access to another individual’s information. A checksum was added to remedy the situation.

Information is filled in by the electees and the page submitted; if it is correct and complete, the electee will receive a confirmation page. Any errors on the page will have the field with a problem indicated by red lines or red text with an explanation at the bottom of the page. Once the catalog card information has been submitted, the link in the email will no longer function. Attempts to use it will produce a page indicating the catalog card has been completed. Once a card has been submitted, only HQ can make changes to the information.

HQ will no longer verify the information on the catalog cards as there is no longer a paper document to verify against. It will be the electee’s responsibility to enter personal information correctly. The electee should understand that this is the permanent membership record.

Some safety nets are built into the process. The chapter officers have the ability to use links on the Catalog Card page to submit the information themselves rather than the candidate. This was necessary as the report of Final Action cannot be submitted until all catalog cards have been completed. Delaying the Final Action report and initiation because of one individual is undesirable. Chapters officers are reminded that the catalog cards should be completed by the electee except in extenuating circumstances. HQ also has the same capability to complete the catalog cards along with an added ability to force a catalog card to completion without the data being provided.

Implementation
The change to electronic catalog cards occurred with the start of the Fall 2012 chapter reporting period. This change was not taken lightly, and implementation was planned based on feedback from members and logistics at Headquarters. For a few hours on August 15, 2012, the chapter reporting system was shut down to install the new code on the server and make necessary modifications to the databases.

The use of electronic catalog cards represents a significant paradigm shift for a system that has been in place for over 100 years. Change is inevitable and the transition to fully electronic catalog cards is the beginning. For years, the paper catalog card has served as the primary membership record. As computers became commonplace, the transition to electronic records was only natural. The elimination of future physical cards will complete the transition to fully electronic member records. The change will benefit members, chapters, and the entire organization. Information on members will now be easier to capture, will certainly be more accurate, and will contain additional useful information.

I would like to express thanks to Dylan Lane for his research and efforts into finding archival information.

Raymond (Ray) Thompson is the computer systems administrator at TBP. Ray has been working with computer systems since the dark ages. During his tenure, which started in late 2001, he has done much of the work to improve the data systems and record keeping. In his free time he enjoys photography having earned a certificate in photography from the University of Tennessee. Ray also produces the photographs taken at the annual conventions.

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