Was Gutenberg Jewish? and Other Conundrums: Exploring The Margins of Judaica Bibliography

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Recommended Citation
Was Gutenberg Jewish? and Other Conundrums: Exploring The Margins of Judaica Bibliography*

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Excerpts from the Introduction by Michael W. Grunberger

I am especially pleased to introduce this plenary session, which marks an important milestone for the Council of Archives and Research Libraries in Jewish Studies (CARLJS) and its sponsor, the National Foundation for Jewish Culture (NFJC). This is the inaugural Myer and Rosaline Feinstein Lecture of the NFJC's Jewish Endowment for the Arts and Humanities.

The Feinstein Foundation Lecture, of which this is the first, is delivered by a senior librarian, bibliographer, or archivist. CARLJS has decided that the specific topic of the annual lecture will be left up to the individual speaker - but that it must fall within the broad scope of Judaica bibliography. The lecture series is designed to provide perspectives on Judaica librarianship through the eyes of the profession's most gifted and skilled practitioners.

We could not have selected a more appropriate speaker for this inaugural lecture than Professor Herbert C. Zafren, Director of Libraries Emeritus of the Hebrew Union College-Jewish Institute of Religion. After all, Herb Zafren has been the key "inaugurator" of much in our professional lives that we now take for granted. His career has been devoted to Judaica Librarianship - in all its glorious variety - and he has been and is our profession's primary builder. I mean that literally and figuratively. Look around you - the Association of Jewish Libraries, a professional association more than 100 strong, with almost 200 in attendance here in Toronto; CARLJS, with its more than 30 institutional members - can be traced in large measure to the vision, commitment, and skill of a small but dedicated group of founders, within which Herb Zafren was the prime mover.

While president of the Jewish Librarians Association in 1965-66, Professor Zafren was instrumental in merging it with the Jewish Library Association, which became the Association of Jewish Libraries (AJL), and then he served as AJL's first president. He was a founding member of the Council of Archives and Research Libraries in Jewish Studies, served as its president twice and as chairman of the Judaica Conservancy Foundation. He has served as vice-president of the World Council of Jewish Archives.

At his home institution, Hebrew Union College, Herb has taught and has directed and built four libraries - both in an architectural sense and in collection development, microfilming and conservation projects, automation, management techniques, etc. He is the editor of the Judaica bibliographical journal Studies in Bibliography and Booklore and its companion monographic series Bibliographica Judaica.

Herb Zafren is a respected and sought after library consultant. In 1987, for example, he led the International Library Evaluation Team set up in connection with the re-accreditation of the Ben Gurion University of the Negev. I was fortunate enough to be a member of that team. I watched him successfully navigate through a highly complex political minefield to come up with an honest assessment of the situation in the library, along with a set of doable recommendations that were conveyed clearly and tactfully to the university's board. Observing Herb in action was a privilege, and that experience served as a tutorial for me in the business of library management, evaluation, and priority setting. His method then (as it is now: witness the title of this lecture) was to ask questions - and then ask more questions, which inevitably leads one to greater understanding.

Over the course of his forty-five year career, Herb Zafren's commitment to Judaica Librarianship writ large and writ miniscule has been absolute. He is our premier practitioner - building a world-class library at HUC; he is an eminent "library scientist" with publications in the fields of reference, bibliography, and library science; and he is a meticulous scholar of the Hebrew book, who has written extensively on the history of printing, with special emphasis on the book as artifact. Clearly, Herb Zafren is the epitome of the "scholar/librarian."

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Lecture by
Herbert C. Zafren

Let us begin with the conundrum of the
"music man."

Shabtai Bass is known as the "father of
Hebrew bibliography" because of his book,
*Sifte Yeshenim*, which was published in
Amsterdam in 1680. It was the first sys-
tematic Jewish attempt to record all extant
Hebrew books and manuscripts. Shabtai
had been a singer in the Alteuschule in
Prague and always included some musical
reference with his name, like "meshorer"
or "bass" - he must have had a deep voice.
When he was a publisher in Dyhernfurth
after 1689, the title page woodcuts of a
number of the books from his press con-
tained an image of a man holding musical
notes. In Figure 1, the man and his music
are at the top of the woodcut. In Figure 2,
"music man" is at the bottom. It was to be
expected that some bibliographer would
assume that the image was a likeness of
Shabtai himself, and indeed Abraham
Yaari did. However, another giant among
Judaic bibliographers, Isaac Rivkind, chid-
ed Yaari and in effect said "Gotcha" when
he pointed out that one of the two wood-
cuts had already appeared in Amsterdam
in 1682 in a book entitled *Seder Hayotsrot*,
one part of a multi-part prayer book (Fig-
ure 3). Rivkind declared that this was a
"wandering" woodcut - not at all an unusu-
al thing in those days - used first by the
Amsterdam printer Phoebus ben Aaron
Halevi and years later by Shabtai. It was
not produced for Shabtai, said Rivkind,
and, therefore, was not his likeness.

I was the still young editor of the journal
where Rivkind published his disagreement
with Yaari, and I respectfully pointed out to
him that I believed his conclusion might be
incorrect, though I permitted it to be pub-
blished. I had a number of reasons, which
I conveyed to Rivkind, for suspecting
something fishy. I thought that more
research needed to be done.

What bothered me was that 1) other
copies of *Seder Hayotsrot* printed by
Phoebus in Amsterdam in 1682 had a dif-
ferent woodcut title page (Figure 4); 2) Am-
sterdam was the prestigious center of
Hebrew printing at the time, and printers in
other cities often tried to disguise their
books as Amsterdam productions; and 3) the
woodcut in question had been used in
at least eight other books that were printed
in Dyhernfurth and, to my knowledge, in
no Amsterdam book other than the one in
question. Shouldn't one, under these cir-
cumstances, suspect that the text on the
"music man" title page that identified the
place, printer, and date as Amsterdam,
Phoebus, and 1682 might be false? The
methodological question was how to
resolve two conflicting "facts": an obvious
relationship of the woodcut to Shabtai
Bass in Dyhernfurth after 1689 and an
obvious use of the same woodcut in Am-
sterdam in 1682, with no relationship to
Shabtai.

My approach was to seek evidence that
might yield a resolution that was highly
probable and not merely possible.

A close examination of all of the wood
and metal ornamental devices used by
Shabtai in his Dyhernfurth books showed
that he deliberately copied many orna-
ments used in Amsterdam but that none of
the ornaments was exactly the same as
Amsterdam's.

Figures 5a and 5b show very similar, but
not identical, woodcuts of a bear flanked
by two men and various animals and a
pair of cherubs. Analysis of the typefaces
that Shabtai used in his books revealed
that they too were very similar to those of
Amsterdam, but there were subtle differ-
ences in design and size in every case. In
other words, there was a unique and iden-
tifiable set of printing paraphernalia in
Dyhernfurth, which had no exact reflection
in any Amsterdam book that I knew. When
the *Seder Hayotsrot* with the music man
was compared closely with Dyhernfurth
books and Amsterdam books, it matched
Dyhernfurth in every respect and did not
match Amsterdam in any respect. This is
as close to proof as one can get that the
book was produced after 1689 in Dyhern-
furth despite what its title page says.

A corollary conundrum is Why did Shabtai
print a false place, date, and publisher?
One possible explanation is that he was
trying to pass off the book as an Amer-
dam publication - pure and simple fraud -
to give it more "glitz."

Another more charitable explanation is
also a little more involved. Let us say that,
when Shabtai was ready to leave Amer-
dam for Dyhernfurth some time between
1682 and 1689, he bought some Amer-
dam books so that he would have some-
thing to sell while he was getting his own
printing establishment under way. Let us
further assume that the multiple-part
prayer book, one part of which was the
*Seder Hayotsrot*, was among the stock
that he bought. It is likely that the prayer
book was unbound and that customers
could opt for which parts they wanted to
buy. For this and other reasons, the num-
ber of available copies of each part
undoubtedly varied. By the time he had
sold almost all of the copies of the *Yotsrot*,
his printing shop may well have been func-
tioning. What would have been more nat-
ural than to take one of the last copies in
to his shop foreman and ask him to print a
new supply of the book, copying the old
one exactly? The literalist foreman not only
had the text of the book copied but also
the text of the title page. This scenario
could account for the anomaly that we
have been struggling with, namely, a
seemingly Amsterdam book printed with
type and woodcuts that were available
only in Dyhernfurth.

There is a little more. Shabtai seemed to
be a very self-centered person. The titles
of two of his works begin with the word
[sifte] which Shabtai himself admits is a
play on his name [Shabtai], only one let-
ter being different. He used his name in an
acrostic and musical motifs in chrono-
grams. He was instrumental in having the
letters of his name printed larger than sur-
rounding letters in a text (Figure 6). Thus,
it was entirely in character for him to
decide to place a likeness, or at least a
symbol, of himself on his books.

This kind of analysis recognizes the arti-
factual aspects of books. Just as pottery
and other objects of use and art are arti-
facts for the archaeologist to describe,
often in great detail, in order to learn about
the culture that produced them, so books
are artifacts that need to be investigated
and described, sometimes in great detail,
to enable bibliographers to glean the story
behind their production, by whom, when,
where, and why. Just as the content of a
book reflects the intellectual milieu of its
origin, so the book as artifact reflects the
economic, social, artistic, and techno-
logical world in which it was produced.

Having mentioned technology, let us turn
to the subject of printing, even as we rec-
ognize that bibliography applies also to
nonprint material like manuscripts, tablets,
disks, or CD-Roms and to non-codex for-
mats like broadsides, playing cards,
scrolls, etc.

Lest we isolate printed books too severely,
however, let us keep in mind the continuity
between and among the formats and
especially the virtual truism that the early
printed book was a conscious imitation of

Judaica Librarianship Vol. 11 No. 1-2 Winter 2002 - Spring 2003 29
the manuscript and that the invention of printing was motivated largely by the desire to mass-produce a substitute equivalent for the manuscript.

Our next conundrum then, is What were the essential components of the invention in Europe of printing by means of movable metal type? This question has relevance to the later question of possible Jewish involvement in the invention.

Actually, printing consisted of a series of inventions and modifications of existing tools. We think of the printing press as an essential part of the invention, but other presses and binders' presses were long in existence and could be modified for printing. Paper and parchment had also long been used, as had been ink. But a considerable amount of chemical experimentation must have been necessary to develop inks that would not bleed too much when used with metal type in a press and would dry quickly and thus avoid smudging and offsetting from sheet to sheet. Metallurgy was called upon to develop an appropriate metal for the type - an alloy that would have these characteristics: 1) liquify at a relatively low temperature, 2) harden very quickly below that temperature, 3) take ink easily, 4) transfer ink to paper smoothly, and 5) be hard enough to withstand the pressures of the press and to be used over and over. Artistry, perhaps akin to the artistry of the manuscript scribe, was necessary for the design of the type. Art metal work, as may have been familiar from coin-making, was called upon to cut the letter design into a piece of hard metal which became the punch (Figure 7a). The punch was then literally hammered into a bar of soft copper, thus transferring the letter image and thereby converting the bar into a matrix for making multiple copies of each letter (Figure 7b). Perhaps the most important breakthrough was the casting instrument or variable-width mold. Successful movable-type-printing depends on making type that has two constant dimensions and one variable one. The variable dimension was to accommodate narrow, average, and wide letters. One constant dimension is the height of the letter (for example from the bottom to the top of the "h"); the other is the size (from the bottom to the face) of the type piece itself, so that when the type is set up, there will be a uniformly flat surface to ink and transfer images to paper. Using the matrix of each letter as the bottom of the mold, it was then possible to pour molten metal into the mold and cast out hardened individual and interchangeable pieces of type.

In Figure 8, we can see what an early piece of type looked like. The accidental piece, in Mantua before 1480, 9 of a piece of type, that must have fallen into the press, unintentionally preserves a side-view picture for posterity.

Given the variety of knowledge and skills needed for the printing enterprise, it is not surprising that bookbinders, goldsmiths, metallurgists, and other metal workers were among those who figured in the invention.

Next conundrum: Were Jews involved? To this question the answer is that some Jews were almost certainly among the early experimenters. In Avignon in 1444, a goldsmith from Prague named Procop Waldvogel taught two people an "art of artistic writing." Of greater interest to us is a contract dated 1446 between Waldvogel and a Jew named Davin of Caderousse to deliver 27 Hebrew letters, cut in iron, and other implements of the secret art.10 The Hebrew alphabet, you will recall, contains 22 letters and five final letter forms. So the 27 iron letters could conceivably have been punches for a font of type.

Was Gutenberg Jewish? Robert Singerman and Michael Pollak published an essay 11 on this subject which reports on several articles by Isaac Mayer Wise in the American Israelite in 1880 and 1890 that refer to a family tradition that Gutenberg was an ancestor of Wise, and that he was indeed Jewish. Singerman and Pollak also call attention to other literature on both sides of the question of Gutenberg's religion and background. They come to no conclusion about Gutenberg, and neither shall I.

Precious little is actually known about Gutenberg's life. The secrecy surrounding the experimentation that clearly was going on in the 1430s into the early 1450s helps to hide facts. In place of facts, many theories have been proposed to fill the gaps in our knowledge. One of these theories has been presented by Ursula Katzenstein, a bookbinder and a student of fifteenth-century binding. In her Portuguese volume on the world-famous haggadah to California, stayed with it while it was tested, and brought back the disappointing result that the ink contained very little copper and almost no lead and thus had no relationship to the ink of the Gutenberg Bible. These data do not destroy Ms. Katzenstein's hypothesis; they simply do not help it.

So, Gutenberg, or somebody, produced the first printed book in Europe about 1455. Jews began to print Hebrew books, first in Italy by about 1469 and then in Spain in the mid-1470s. They were actually the first to bring printing to Portugal, in 1487, and to Constantinople in 1493 after the expulsion from Spain in 1492. They were later to be the first to print in Africa, in Fez, in 1516.

How shall we go about describing printed books? Of course, for different purposes, the amount of detail that we include in a description will vary. But what are the elements that are likely to help us identify the item and place it into some desired context? Information taken from the title page or colophon may include author, title, place, publisher and/or printer, and date. We already know that sometimes this kind of information is wrong, so we finger through the book and look for other characteristics: the type used, metal and wooden ornaments, printers' devices, maybe...
watermarks in the paper, whether and how pages or folios are numbered, whether there are running titles, whether the quires (or signatures) are "signed" with Hebrew or roman letters, etc.

The first Constantinople, a Hebrew book, has been the subject of bibliographical controversy for a long time. Though it has the date 1493 in it explicitly, some bibliographers have preferred the date 1503 because the second book printed in Constantinople is dated 1505, and a gap from 1493 seemed intolerable to them. The most recent study of this book, however, emphasizes an analysis of the paper used, has virtually clinched the 1493 date. In any particular study, it is hard to know which data will turn out to be conclusive.

Some years ago, I compiled a bibliography of Hebrew Bible editions, with and without commentaries, and of commentaries with and without Bible texts, for the period 1469-1528. Among these 142 early editions, many, given our present state of knowledge, could not be dated precisely. Despite these limitations and other cautions which I called attention to, the list proved to be very fertile ground for interesting observations and hypotheses. Among them were the following:

1) There is an unexpected chronological progression, i.e., at first commentaries alone were printed, then text and commentary, and finally, text alone.

2) Among the text editions, the whole Bible, Pentateuch, Haftarot, Megilot, and Psalms predominate.

3) Commentaries on the Pentateuch outnumber commentaries on all other books by at least five to one. Editions of Rashi's Commentary on the Pentateuch are most numerous - as expected - but the commentaries by Bachya ben Asher and Nachmanides are surprisingly not far behind.

4) Individual or small groups of books printed are Psalms, Proverbs, Job, Isaiah and Jeremiah, Ecclesiastes, and Song of Songs. Most of the historical books and the prophets were not separately printed.

Some hypotheses which were based on the observations were:

1) The Pentateuch and commentaries on it probably enjoyed first place in the Bible curriculum of that period.

2) If profit was a motive - and I believe it was - early printers produced commentaries in large numbers because enough manuscripts of the Pentateuch or Bible texts already existed to satisfy the demand in that period.

3) Printing text and commentary together on the same page was much more easily accomplished than writing them on the same page. Thus, printing enabled the pedagogic advance of studying text and commentary from one book.

4) The demand for study books was satisfied first. Then, texts without commentaries, used more for ritual and liturgical purposes than study, flooded the market and revolutionized the availability of such books.

5) Contemporary educators gave scant attention to Joshua-Kings, Latter Prophets, and Chronicles.

What started out as a pedestrian bibliographical list led to suggestive food for thought for historians of education and historians of the book as well as for Bible scholars.

As printing spread from place to place, it spawned another conundrum: the "war of typefaces."

In the early decades of printing, printers used many different typefaces. Conscious-ly trying to make their books look like manuscripts, the type designers imitated the best local handwritings. Some printers were more successful than others, and the typefaces that they used also became models for other printers. In this "war" between successful typefaces and local writing styles, the types of the important Italian printing family, Soncino, soon won out. Soncino's homogenized Sephardic square and rabbinic (or so-called Rashi) types prevailed and became the norm (Figure 9).

There was no Hebrew printing north of the Alps in the fifteenth century. When Jews began to print in Ashkenazi territory in the sixteenth century, they could design type that imitated local Ashkenazi hands or mimic the already successful Soncino types. In fact, they did both. An undeclared war between Ashkenazic and Sephardic types began. Gothic-looking Ashkenazic square types (Fig. 10 is an extreme example) held their own for quite a while, but the Ashkenazic rabbinic style yielded to the Sephardic rather quickly. Ashkenazic rabbinic was soon on the way to oblivion.

When literature in the vernacular languages (German, English, French, etc.) began to be printed in quantity, printers seemed to be reluctant to vulgarize the type styles they had been using for Latin. So they introduced new type designs that were neither roman nor italic in appearance. When Jewish printers, by the late 1530s, began to print a good bit of Yiddish, they apparently felt a comparable reluctance to use the typefaces that they used in "holy" books. The discarded Ashkenazic rabbinic was rescued from oblivion. It became the type style that was used for Yiddish for several centuries. (Figure 11 shows a fifteenth century Ashkenazic rabbinic handwriting and a Yiddish typeface.)

Another unusual typeface can be found in a Bible which was published in Hamburg in 1587. Edited by Elias Hutter, it uses a combination of thick letters and hollowed-out, or outlined, letters (Figure 12). Some bibliographers report that another edition appeared one year later in 1588, but I have never been able to find a copy and think this is an error. The massive book, often issued in two large volumes, did appear again in Hamburg in 1596 and 1603, and in Cologne, also in 1603.

Note that Hutter edited the text in such a way that the fully-inked letters represent the 3-letter root - Hutter believed that every Hebrew word, not just most verbs, had a 3-letter root - and the outlined letters are the prefixes and suffixes. What a clever way to teach Hebrew!

So the Bible sold well, as attested by the four or more "editions. Right? Wrong! A careful scrutiny of many copies leads to the conclusion that all of the copies were printed in 1587, though possibly a few leaves were printed anew for the later issues. Stuck with a big remainder from the 1587 printing that did not sell well, the publisher reissued the book with new title pages, changed dates, and modified preliminary pages to try to get rid of the copies that were left.

Once again, rigorous analysis yields a different truth from the one that first meets the eye.

From the huge Hutter Bible, I turn to an unimposing little siddur that has generated a startling mass of comments by numerous bibliographers over several
centuries. First described as a 14-leaf prayer book, it was printed without vowels, three columns to a page. Later it was described as a 24-leaf book. While a few copies have survived on their own, most surviving copies had been bound into books dating from 1680 to 1693, written or published by our old friend Shabtai Bass.

There are legitimate questions that can be asked about this booklet:

Does it consist of 14 leaves or 24 leaves - or both?

Can Shabtai Bass have been associated with the production of the siddur even though the colophon gives the date as 1677/78 and Shabtai did not come to Amsterdam where the book was printed until after 1678?

Why is the colophon, normally an end-of-book feature, on the verso of leaf 14?

Other problems derive from the unwarranted surmises and guesses of the many bibliographers who have written on the subject.

Some bibliographers, not knowing or not believing that a couple of surviving copies have only fourteen leaves, simply assumed that the booklet was issued all at once as 24 leaves. One imaginative, but rather uninformed, speculation was that the colophon was placed on leaf 14 because that's where there happened to be space. The speculator should have known that printers have various techniques to make space. In this instance, they made a few leaves two lines longer than the rest and thus created the space at the end for the colophon.

Other unsupported speculations connected Shabtai with the entire booklet despite the 1678 date. One writer on the subject assumed that the siddur was a best seller, and only the few remaining copies were attached to some of Shabtai's books. The reverse was also speculated: the siddur was so unattractive and sold so poorly that it was attached to Shabtai's books to get rid of unsold copies.

The actual printing history, revealed by a careful examination of the book, can be outlined as follows: The colophon on leaf 14 verso (the page on the right in Figure 13) marks a completed 14-leaf siddur, printed by an Amsterdam printer, Jacob Chayim ben Moses de Cordova. That this was all that Jacob Chayim intended to print in 1677/78, the date in the last line of the colophon, is demonstrated by the formulaic Hebrew words "slik, slik, slik" ("stop, stop, stop"), by the absence of a catchword on the bottom of this page - all of the other pages have catchwords - and by the simple fact that some of the surviving copies have only 14 leaves. There is no reason to believe that Shabtai was involved in any way with these fourteen leaves.

Sometime after 1678, supplementary leaves were printed and were added to the siddur. Differences from leaves 1-14 in type, ornaments, and printing techniques argue for a different printing establishment - or more than one - for the supplementary leaves. One example should suffice: On leaves 1-14, there is only one running title at the top of each page and one catchword at the bottom of each page other than the last. On leaves 15-24, on the other hand, each column is headed by a running title, and there is a catchword at the foot of each column (for example the page on the left in Figure 13).

At least one reason for suspecting that the supplementary leaves were not printed and added all at once is that the formulaic "slik, slik, slik" makes another appearance at the bottom of leaf 22 verso (page on right in Figure 14), presumably to signify the intended end of the eight-leaf supplement. Then, lo and behold, four more pages - two leaves - of zemirot were added to the book. A second supplement, if you will! A reasonable conjecture is that the musically compulsive Shabtai Bass may have gotten into the act. Perhaps he was responsible for at least this second supplement, the zemirot, and then distributed some of the siddurim as addenda to his own books.

A refrain that I have repeated a number of times today, in various ways, is the importance of carefully examining the book/artifact and of recording accurately what one finds. Equally desirable is the avoidance of theories, guesses, and speculations, unless they are acknowledged as such and are grounded in firm data. In other words, our goal should be the rigorous collection and critical analysis of facts. As part-time bibliographic scholars - which is all that any of us can hope to be these days - we need more reliable tools than memory and intuition if we are to match and surpass the generations that preceded us.

I would like now to introduce the concept of what I have called a "typographic profile" as a functional tool for accurately placing and dating books when their place, printer, and/or date is absent or distorted.

The only "typographic profile" that has been published, to my knowledge, is one that I compiled some years ago. It is a profile of Shabtai Bass - who else? - printer in Dyhernfurth from 1689 to 1718. A typographic profile, I wrote, should contain the following elements:

1) A list of the books attributed to a particular press - namely, the artifacts
2) A list of the books examined, so others will know what you have and haven't seen
3) A list of the secondary literature on the place and printer
4) A record of all title page cuts
5) A record of all typefaces and sizes
6) A record of the metal ornaments
7) A record or description of the ornamental and illustrative cuts
8) A description of other distinguishing features (watermarks, signatures, etc.) and
9) A listing of problems with or without solutions.

Let's look at a few samples from some of the categories:

Figure 15 shows the "music man" on a Haftarot title page from 1693. Note that the woodcut has a break that was not present in the Five Scrolls (Figure 2), also printed in 1693. Which do you think was printed first?

Figure 16 shows a record of some of the types used, their sizes, and the books they appeared in. One can often determine when a printer acquired new type by noting its first appearance.

Figure 17 shows a list and facsimiles of small metal ornaments, or fleurons, cast from a mold like letters, and their sizes.

Figure 18 shows some of the woodcuts used in Dyhernfurth.

All of these tools can help with the relative dating of books that lack dates.

It is hard to say when one should publish the data she or he has collected. If too few
artifacts have been studied, the profile might be too thin. But one need not wait until all or even most of the artifacts have been examined. Publish early and add to the profile later and invite others to add to it, also.

Because only one profile, and two addenda to it, have been published so far, I emphasize the concept and the methodology rather than the finished product. I used the Dyhernfurth profile material before the profile was published to determine that the Seder Hayotsrot was published there, not in Amsterdam. Also, to make the comparison with Amsterdam, I had to collect data on many Amsterdam printers - data that are not yet ready to be published.

Whether one publishes or not, the method can be valuable in any bibliographical research. It calls for being systematic and rigorous in gathering, measuring, recording, organizing, comparing, analyzing, and interpreting the data. Such a process enables the expansion of our knowledge because it allows us to use what is known to elucidate what is unknown, thereby moving it into the realm of the known. Much remains to be done.

I have a confession to make. I committed the perhaps unpardonable sin of writing the abstract of this lecture before I finished preparing the complete lecture. I later realized that time restraints were about to eliminate a couple of topics mentioned in the abstract. Since I look upon the abstract as a kind of performance pledge, I will at least introduce these topics very briefly.

The first is type specimens. Published as advertising broadsides or pamphlets by type foundries or printers, they provided samples of the typefaces and ornaments that were available. Often they contain Hebrew fonts. Figure 19 shows a very early specimen sheet from Nuenberg, 1525.20 The two Hebrews are in the Ashkenazi tradition. The next specimen sheet (Figure 20), from a Frankfort on the Oder foundry, shows various sizes of square type (some with ornamental lettering), rabbinic, and Yiddish.21 Figure 21 shows a veritable garden full of "flowers" or ornamental ornaments.22 Sometimes the ornaments that a printer has available in her repertoire may add more individuality to her books than the types used.

While I have so far found only one specimen sheet crucial to my research, I believe that their utility in helping to identi-
לפי החרנים, המספר הרוחני של העותב

כפי שהказалось בראשי התיבות של הסדרה המקובלת

לפי הדגמה של קומ maçור

Figure 1
(Part of Pentateuch, Dyhersfurth 1693.)

Figure 2
Figure 3
Figure 5a
(Dyernfurth, 1693.)

Figure 5b
אריה אליאס ויטנר


A 10, 2
Figure 10
Ashkenazic rabbinic hand, 1486. HUC Ms. 676.

Yiddish Type specimen; two sizes. Fontan, Zurich, 1546.

Figure 11
ב שםאל

נֶבֶן וַנִּנָּה קָרַבְתָּר קְנֹת וְעָלָה

לֶאֱוֹתָה מַעְיָן בַּעֲרַבַּיָּה. מָרָכָה

פְּאָרָה צָהוּר יְיוָרָה: מִשְׁאָלָה מִבָּיתָה

תָּעֱבִּילָה נַנְבָּרָה עַלְּפָתָה וְלַנָּה

אֶרֶנֶה: הָאִמֵּר אַלְּבָּרָה

אֶלֶל: אֶרֶנֶה-עָבָרָה, אֶמֶר בָּרָה, כּוֹתָה

לָבָּלָה מַעְיָן לָהּ וְעָרַבָּיָה מָרָכָה.
כ prm לא
 figura 13
Figure 15

Tp 5: Part of Pentateuch, 1693 (also Type: S1, S2, S3, S4, R2, R3, R4).
generic), and I preferred to risk the problems of measuring the so-called "x-height" of letters (excluding those that have ascenders and descendents). Therefore, the sizes below represent my approximate measurements of letters like כ and ג with a rule graduated in hundredths of an inch and read through a 5× magnifier. (The approximate millimeter equivalents are not measurements; they are taken from tables of equivalents.) The measurements cannot be absolute because of the variables mentioned above, but one size can be relatively differentiated from another.

One further point: when an elongated נ is referred to, it is always the final letter (ך).

S[quare] 1 (.25" = 6.3 mm.): Represented by the words דבירי ויד in Figure 4, this type appears in every book examined except ספרי עופריה שבשה ערב מתתת בתקופת ספירה. The letters א and ת appear in elongated form in ים בשער (1700).

S[quare] 2 (.15" = 3.8 mm.): Represented by the words וה and others in Figure 4, this type appears in every book examined. By 1690 the letters א and ת appear in elongated form in ים בשער; the letters א, ת, ב, מ, and נ are elongated in ים הבש in the same year. The same elongated letters appear in other books from time to time.

S[quare] 2 (vocalized): The first appearance is in רבכתי יטועי (1691), with further occurrences in ספרי יתעוזי (1693), the Pentateuch of 1693, 1700, and ים הבש (1707). The letters א, ת, ב, מ, and נ are elongated in 1691; א and ת are added to these in 1963 (משה). The letters א, ת, ב, מ, and נ are added to these in 1963 (משה). The letters א, ת, ב, מ, and נ are added to these in 1963 (משה). The letters א, ת, ב, מ, and נ are added to these in 1963 (משה).

S[quare] 3 (.105" = 2.7 mm.): Represented by the words דבירי ויד in Figure 4, this type appears in every book examined except ספרי עופריה שבשה ערב מתתת בתקופת ספירה. The letters א and ת appear elongated in ים בשער (both of 1689); ב is added in ים הבש (1690); א appears in ים הבש (1697); א, ב, מ, and נ are added to these in 1963 (משה).

S[quare] 3 (vocalized): This type appears only in ים הבש (1692), ים הבש (1693) and ים הבש (1697). In ים הבש, א, ת, ב, מ, and נ appear elongated.

S[quare] 4 (.07" = 1.8 mm.): Represented by the three lines before the place of publication in Figure 4, this type appears in every book examined except ספרי עופריה שבשה ערב מתתת בתקופת ספירה. The letters א, ת, ב, מ, and נ appear elongated in the first Dyehnforth book and frequently thereafter.

S[quare] 4 (vocalized): The only appearance is in ים הבש of 1692. The elongated letters also appear in this vocalized text.

S[quare] 5 (.055" = 1.4 mm.): Represented by the vocalized text in Figure 5, this type appears in the Pentateuch of 1693, in ים הבש of the same
Ornament 7:
Arabesque (17’’ x 16’’), appears in 1689 (רבי ציון), 1690 (רבי ציון, רבי ציון), 1691 (ברכת הומואון, ברכת הוללת), 1692 (פנטאוד), 1693 (פנטאוד), 1694 (פנטאוד), 1700 (יתביב), 1703 (יתביב).

Ornament 8:
Geometric design (23’’ x 22’’), appears in 1689 (רבי ציון), 1691 (רבי ציון), 1692 (רבי ציון), 1693 (רבי ציון), 1694 (רבי ציון), 1695 (רבי ציון), 1700 (רבי ציון), 1701 (רבי ציון).

Ornament 9:
Wheel with single rule on each side (13’’ x 13’’) appears in 1689 (ברכת הומואון, ברכת הוללת), 1690 (ברכת הומואון, ברכת הוללת), 1691 (ברכת הומואון, ברכת הוללת), 1692 (ברכת הומואון, ברכת הוללת), 1693 (ברכת הומואון, ברכת הוללת), 1700 (ברכת הומואון, ברכת הוללת), 1701 (ברכת הומואון, ברכת הוללת), 1702 (ברכת הומואון, ברכת הוללת).

Ornament 10:
Flower with wheel-like petal (34’’ x 26’’), appears in 1696 (ברכת הומואון, ברכת הוללת), 1697 (ברכת הומואון, ברכת הוללת), 1700 (ברכת הומואון, ברכת הוללת), 1703 (ברכת הומואון, ברכת הוללת).

Ornament 11:
Clover leaf (11’’ x 10’’), appears in 1696 (ברכת הומואון, ברכת הוללת), 1697 (ברכת הומואון, ברכת הוללת), 1712 (ברכת הומואון, ברכת הוללת).

Ornament 12:
Wheel (13’’ x 13’’), appears in same books as Ornament 12 and in 1700 (ברכת הומואון).

Ornament 13:
Arabesque with single rule (14’’ x 11’’), appears in 1696 (ברכת הומואון), 1700 (ברכת הומואון, ברכת הוללת), 1712 (ברכת הומואון, ברכת הוללת).

Figure 17
M.D.XXX-

Sapientes ubi audierint promovubunt, & cordani industriae consequuntur, ut intelligent sententias, interpretationem, sapientiam constilia & exempla.

Pro omnibus fructibus sapienti compara sapientiam, & prater facultates tuas intelligendum posuisse. Quod si eam magnificeris, te uicissim exalabir.

Deus enim ece sua sapientiam ex seintiam, & in se perfectam longitatem, recta est sua. Precagi: prosa bos, tu interior, & in se sapientiam fuiturum ascolati. In tua manis intelliges inificent, jam, et tua bonus visus erubes.

Pensa ne confusil et suberas in ait, et quae intelligenia fore, gentes ne essis punita. Per me reges regnantes, & principes ascoliussisse iussu. Per me dominus dominatus, & regnans essis, tibi essis anser.

זָעֵבֶר-רָחִים וּזְעָבֶרֶה

Zu solt das

beslumb nit denbun geh/Und elivore perle solt ir nit für die fros derffen/auff daß sie die jüngsten nit derffen/treten mit ern faßen/und sich wernden/etlich derren.

Also das ir uelstirch und die fröhlich sein/daß das andere die nebst/und das gebiern die jüngsten/Des derren ausrufenn ab die mit Freunds.

Z.Potter