Mathematical and Other Material Specific Details Area
(Scale Information Only)

Here is the area within bibliographic records for maps that causes the most consternation and suffering to those new to map cataloging. And, although the three primary parts of information housed in this field are scale, projection, and coordinates, other mathematical data can also be placed here. This additional information would be for maps showing the heavens that contain data about declination and zenith. But, in the vast majority of cases scale, projection, and coordinates will adequately fill this space in the bibliographic record.

The other problematic part of dealing with the 255 and 034 fields and the information placed within them is that it takes time to understand the correct way to display the information in them. (*See* the document "Examples of Correct Scale and Coordinates Notation") Punctuation and spacing, and in particular the diacritics used in the coordinates, all have specific meaning and/or assist in readability and understanding of the information. Again, practice and time makes this aspect much more palatable and meaningful to the cataloger, who must provide this information accurately so that our patrons can use it to assist in deciding whether to pursue the actual map, or not, according to his/her needs.

Scale Information

Scale is given on a map in a multiplicity of ways, or not at all! This includes by simply describing the scale using words or a mixture of words and numbers, commonly known as a "verbal scale," by showing it as a mathematical formula, which is known as a "representative fraction" (RF), or by using some form of segmented line, known as a "bar scale" or "graphic scale." At other times a combination of the above is employed in the creation of the map. In addition, the scale can be given as being the accurate scale, such as "1:24,000" or "one inch equals eight miles"; or as an approximation, usually by using the word "approximately" or one of its abbreviations, "ca." or "approx." Sometimes, the use of words such as "nearly" or "about" also indicates an approximate scale in a verbal scale statement.

Note that a "scale statement" may include no scale given on the map in any form, the simplest of all situations. Other situations include a phrase that explicitly states that the map was not drawn according to any scale; having a map in which the scale varies from its center going towards its outer area; having multiple maps on one sheet, each with its own scale or a combination of no scale and specific scales; and having multiple maps on separate sheets, each with its own scale, with a consistent scale for all of the maps, or a combination of no scale and different scales.

To start at the beginning however, Rule 3.3B1 of AACR2R says that we must provide a scale statement for each map that we catalog and that if a scale is given it must be in the form of a representative fraction, i.e., 1:XX,XXX. Just as importantly, with the singular exception of "Not drawn to scale," the scale statement always starts with the word "Scale…" or "Scales…" as the case may be, as delineated in this same rule. Therefore, the "scale statement" is a combination of the word "Scale(s)" and the representative fraction that follows it, e.g., Scale [ca. 1:175,000], or the word "Scale" followed by the rest of a worded statement.

Continued page 2…

A New Method For Supplying Multiple Scales In The Bibliographic Record (Rule 3.3B4 in AACR2R 2002)

Under current rules, whenever two different scales are involved with multiple main maps each scale is given in its own scale statement, i.e., there are two 255 fields in the record and naturally two 034 fields as well. Then, if there are three or more different scales involved with multiple maps the scale statement "Scales differ" (***not*** "Scale varies" as is noted in AACR2R) is used in a single 255 field with its matching 034 field coded Indicator value "0" and subfield "a".

However, the new rule in Chapter 3 provides the cataloger with other choices, based less on the number of differing scales and more on the circumstance of different or same geographic areas involved. Much of the change, as described below, has to do with relaxing the strict "rule of two" that has been in operation for many years, described above, and allowing the cataloger to either continue using it or to provide as many scales as he/she feels is necessary or appropriate.

To be more precise, new *Options* to Rule 3.3B4 in AACR2 2002 establish two circumstances in which multiple scales of two or more in number may be given, and in the second case yet an additional option allows the cataloger to give multiple scales in the same scale statement. These two circumstances are:

"a) If the description is of a cartographic item with two or more scales, when projection and/or coordinates are also different for each main map, give each scale in a separate scale statement. If there is more than one title, give the scale statements in the same order in which the titles are given. If there is only a collective title, give the largest scale first.

b) If the description is of a cartographic item with two or more scales, when projection and coordinates are the same for each main map, give the scales in one scale statement. If there is more than one title, give the scale statements in the same order in which the titles are given. If there is only a collective title, give the largest scale first. *Optionally,* give each scale statement with its associated mathematical data in separate scale statements."

Let's take each of the above and examine them more closely. In a) above the multiple maps involved *are of different geographic areas*, hence the "when projection and/or coordinates are also different for each main map" part of the rule. For instance, if there are maps of Pittsburgh, Pennsylvania and Allegheny County on the same item obviously they would be at different scales, the city map at a larger scale than the county map. And, obviously, their coordinates would differ, while the projection used for each may or may not differ. In this case, give the scale and its related projection and coordinate information if available for Pittsburgh in the first 255 field, and the scale and related projection and coordinate information, if available, for Allegheny County in a second, separate 255 field. The order of the scale statements may be switched if, in the title chosen, the county map is given first and the city map second. Finally, if there is a single collective title, then the largest scale is given first, in this case it would again be the one for the city map.

In b) above the multiple maps involved *are all for the same geographic area*. For instance, there may be four maps of the United States on a single sheet or on multiple sheets, each sheet covering a different meteorological topic such as average annual rainfall, average annual high temperature, average annual low temperature, and average snowfall amounts. Since all of the maps involved are for the same geographic area, in this case the United States, then the differing scale statements may be given in a single 255 field, along with their accompanying projection and coordinates data if available. Again, the order of the maps given in the title or the collective title circumstances guide which order the scale statements are listed.

Finally, the cataloger may chose the *Optional* route and simply list each scale statement in its own 255 field, no matter the number of scales involved. *This option is the primary departure from the "old" practice whereby if only two scales were involved each was given in its own separate scale statement, but the moment three or more scales were involved the "Scales differ" phrase was invoked.* However, map catalogers may continue to employ the former "rule of two" practice, and thus the "Scales differ" phrase, if they choose.