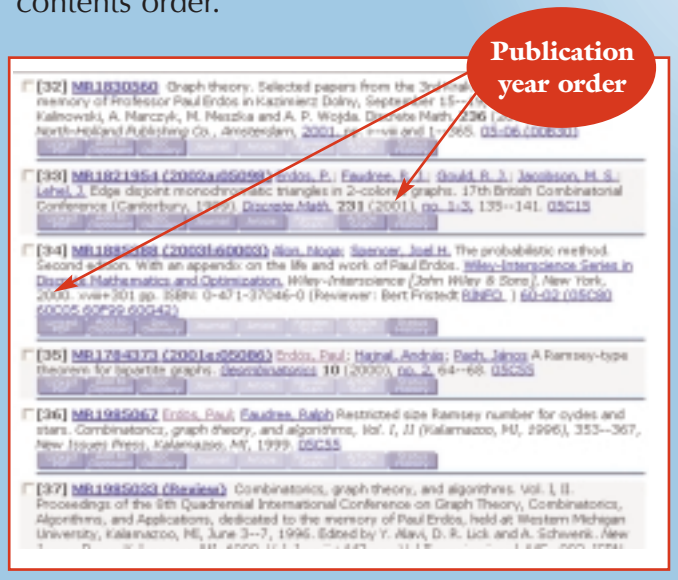
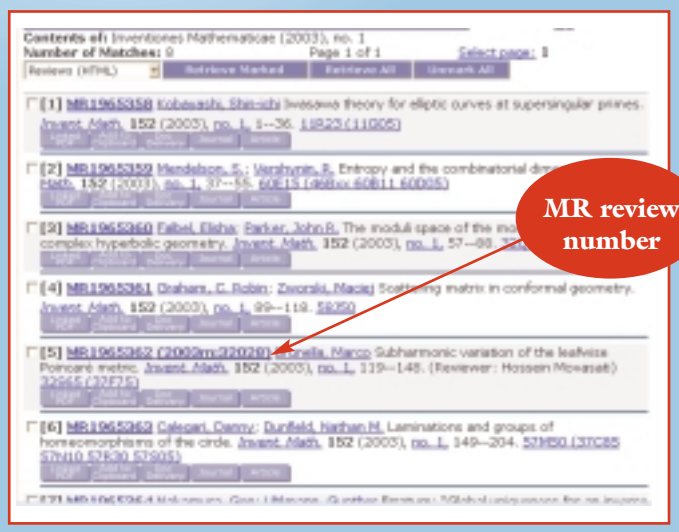
NEW SORT ORDER

Lists of headlines are now sorted in a more natural order, depending on context. Most lists are now sorted in reverse order of publication year. Journal issue lists are sorted in table of contents order.



MR NUMBERS

The seven-digit accession number now takes greater prominence in displays, preceded with "MR." Where appropriate, it is displayed with the review number used in paper *Mathematical Reviews* in parentheses.



MULTILINGUAL INTERFACES

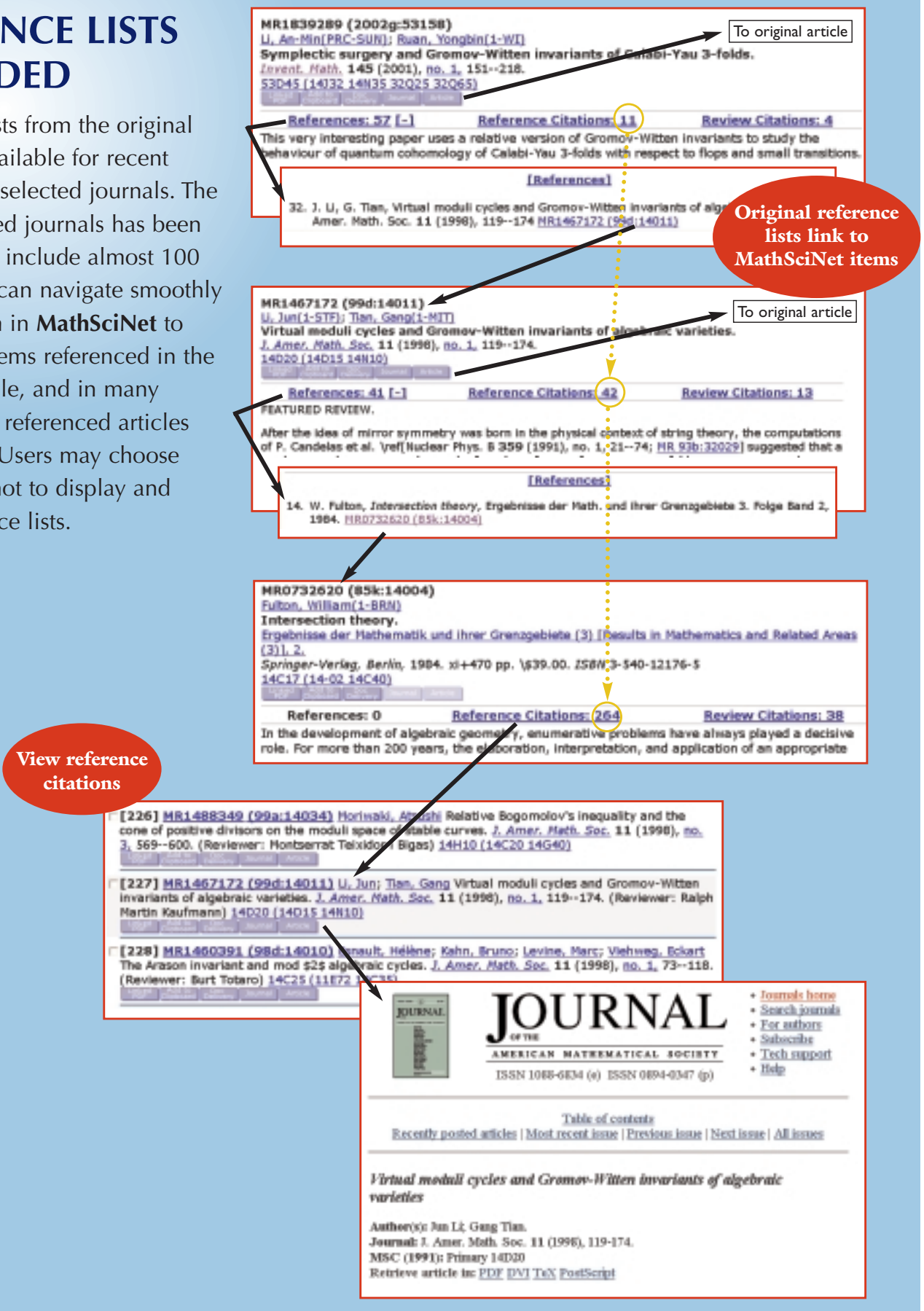
All the search screens and the home page are available in Chinese, French, German, and Spanish, as well as English.

ACCENTED CHARACTERS

Input in all search fields can now include ISO Latin character encoding of accented characters, for example, Poincaré.

REFERENCE LISTS EXPANDED

Reference lists from the original paper are available for recent papers from selected journals. The list of selected journals has been expanded to include almost 100 titles. Users can navigate smoothly from an item in **MathSciNet** to reviews of items referenced in the original article, and in many cases, to the referenced articles themselves. Users may choose whether or not to display and print reference lists.



OpenURL SERVICES

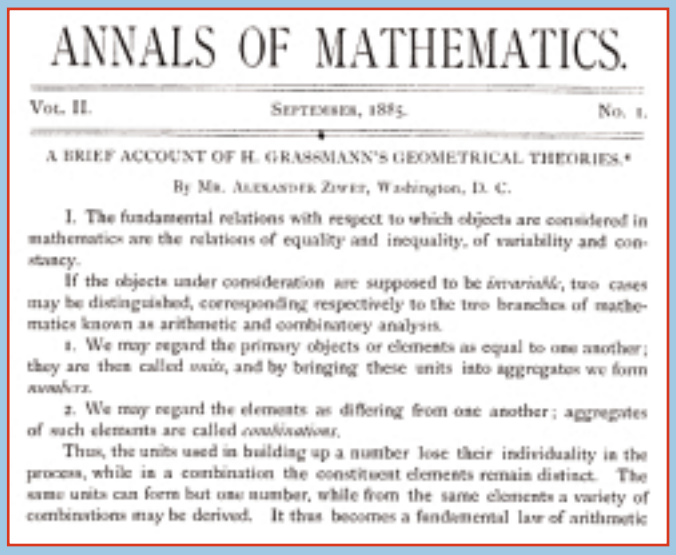
MathSciNet continues to be at the forefront of linking activity by incorporating OpenURL services. OpenURL makes it possible for libraries to restructure electronic access to their collection of published mathematics items.

DATABASE EXPANSION ITEMS

A collection of items available in **MathSciNet** called Database Expansion Items, expands the scope of coverage in the MR Database. Beginning in 2004, items in applied computer science will be added with this coverage, joining the applied statistics items already being added. The items contain full author identification, and journal and original item linking when available.

LINKS TO DIGITIZED MATHEMATICS

The coverage of the *Annals of Mathematics* in the Mathematical Reviews Database has been extended back to the journal's founding (as was done earlier for the *Transactions of the American Mathematical Society*). The **MathSciNet** entry for each *Annals* paper from 1884 to 1997 is linked to the original on JSTOR. The long-term goal is to complete the coverage of all digitized mathematics journals published before 1940, with links to the original.



ANNALS OF MATHEMATICS.

VOL. II. SEPTEMBER, 1885. NO. 1.

A BRIEF ACCOUNT OF H. GRASSMANN'S GEOMETRICAL THEORIES.*

By Mr. ALEXANDER ZIWET, Washington, D. C.

1. The fundamental relations with respect to which objects are considered in mathematics are the relations of equality and inequality, of variability and constancy.

If the objects under consideration are supposed to be *invariable*, two cases may be distinguished, corresponding respectively to the two branches of mathematics known as arithmetic and combinatory analysis.

1. We may regard the primary objects or elements as equal to one another; they are then called *units*, and by bringing these units into aggregates we form *numbers*.

2. We may regard the elements as differing from one another; aggregates of such elements are called *combinations*.

Thus, the units used in building up a number lose their individuality in the process, while in a combination the constituent elements remain distinct. The same units can form but one number, while from the same elements a variety of combinations may be derived. It thus becomes a fundamental law of arithmetic

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