The St Mary's Road symbol font

Jeremy Gibbons Alan Jeffrey

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1 Introduction

This is a brief guide to the St Mary's Road symbol font, a new symbol font for TEX and LATEX. It is designed to live with the American Mathematical Society's fonts, contained in `amssymb.sty`.

It provides a number of new symbols, including ones for derivation of functional programming (such as ⅄, ⨲ and ⫛), process algebra (⫴, ⧈ and ↯), domain theory (⨅), linear logic (& and ⅋), multisets (⦃x⦄, ⨄, and ⊑), and many more. It also fixes some 'features' with previous symbols (⊕ used not to be circular, now you can use ⊕ instead) and adds obvious variants of others (such as ⟻, ⤇ and ⇚). It is all wrapped up in a LATEX 2ε package called `stmaryrd`, which can be used by saying:

```
\usepackage{stmaryrd}
```

This package understands a large number of options:

- `heavycircles` says that all of the circular operators such as `\oplus` and `\otimes` should by default be heavy, and that `\varoplus` and `\varotimes` should refer to the light ones.
- `only` says that only the symbols listed in the option list should be defined. For example:

  ```
  \usepackage[only,mapsfrom,Mapsto,Mapsfrom]{stmaryrd}
  ```

  says that only the symbols '⟻', '⤇' and '⇚' should be defined, which is useful if you use a TEX implementation with limited memory.

2 Symbols

The following operators are defined:

⋎ \Ydown	≺ \Yleft	≻ \Yright
⋏ \Yup	⟠ \baro	⧵ \bbslash
⅋ \binampersand	⚯ \bindnasrepma	⊠ \boxast
◫ \boxbar	⧈ \boxbox	⧅ \boxbslash
⧇ \boxcircle	⊡ \boxdot	□ \boxempty
◪ \boxslash	⋎ \curlyveedownarrow	⋏ \curlyveeuparrow
⋏ \curlywedgedownarrow	⋏ \curlywedgeuparrow	⧹ \fatbslash
⨟ \fatsemi	⫽ \fatslash	⫴ \interleave
◁ \leftslice	⫛ \merge	⊖ \minuso
⋕ \moo	⨦ \nplus	⦶ \obar
□ \oblong	⦸ \obslash	⧁ \ogreaterthan
⧀ \olessthan	⦶ \ovee	⦵ \owedge
▷ \rightslice	⫽ \sslash	▯ \talloblong
◯ \varbigcirc	⋎ \varcurlyvee	⋏ \varcurlywedge
⊛ \varoast	⦶ \varobar	⦸ \varobslash
⊚ \varocircle	⊙ \varodot	⧁ \varogreaterthan
⧀ \varolessthan	⊖ \varominus	⊕ \varoplus
⊘ \varoslash	⊗ \varotimes	⦶ \varovee
⦵ \varowedge	⅄ \vartimes	

The following large operators are defined:

⨦ \bigbox	⋎ \bigcurlyvee	⋏ \bigcurlywedge
⫼ \biginterleave	⨁ \bignplus	⫫ \bigparallel
⨅ \bigsqcap	▽ \bigtriangledown	△ \bigtriangleup

The following relations are defined:

∈ \inplus	∋ \niplus	⋪ \ntrianglelefteqslant
⋫ \ntrianglerighteqslant	⊊ \subsetplus	⊑ \subsetpluseq
⊋ \supsetplus	⊒ \supsetpluseq	◁ \triangleleftequal
▷ \trianglerighteqslant		

The following arrows are defined:

⟸\Longmapsfrom	⟹\Longmapsto	⇤\Mapsfrom
⇨ \Mapsto	← \leftarrowtriangle	⇄ \leftrightarrowequal
↮ \leftrightarrowtriangle	↯ \lightning	⟻\longmapsfrom
↤ \mapsfrom	↗ \nnearrow	↖ \nnwarrow
→ \rightarrowtriangle	) \rrparenthesis	↓ \shortdownarrow
← \shortleftarrow	→ \shortrightarrow	↑ \shortuparrow
↘ \ssearrow	↙ \sswarrow	

The following delimiters are defined:

⟅ \Lbag	⟆ \Rbag	⟅ \lbag
⟦ \llbracket	⌈ \llceil	⌊ \llfloor
⦇ \llparenthesis	⟆ \rbag	⟧ \rrbracket
⌉ \rrceil	⌋ \rrfloor	

Note that `\llbracket` and `\rrbracket` are 'growing' delimiters that can be used with `\left` and `\right`:

$$[\![\mathcal{P}]\!] \quad \left[\!\!\left[\square\,\mathcal{P}\right]\!\!\right] \quad \left[\!\!\left[\bigsqcup_{i\in I}^{a\oplus b} P_i\right]\!\!\right] \quad \left[\!\!\left[\begin{array}{c} a \\ b \\ c \end{array}\right]\!\!\right] \quad \left[\!\!\left[\begin{array}{c} a \\ b \\ c \\ d \\ e \\ f \end{array}\right]\!\!\right]$$

The following special characters are used in building others:

`/\Arrownot`	`\Mapsfromchar`	`\Mapstochar`
`↚\arrownot`	`\mapsfromchar`	

For example, if you type `$\Arrownot\Rightarrow$` you get $\nRightarrow$, and if you type `$\arrownot\rightarrowtriangle$` you get $\nrightarrow$.

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