The St Mary's Road symbol font

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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	◁ \trianglelefteqslant
▷ \triangleqslant		

The following arrows are defined:

⟻ \Longmapsfrom	⟾ \Longmapsto	⇤ \Mapsfrom
⇨ \Mapsto	↞ \leftarrowtriangle	⇿ \leftrightarroweq
↤▷ \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`:

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

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 $\not\rightarrowtriangle$.

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