Plane degrees, minutes and seconds should have no space between the number and the symbol, or after; I can't find an English-language style manual that suggests otherwise, but I can't speak (or speak for) any other languages.

Likewise, percent and permille (which seems to be called 'promille' in `phys-unit.lua`).

`arcminute` and `arcsecond` need to be added to the list of units in `phys-unit.lua`, with prime and double-prime symbols as shown. These follow the same no-space rule as the degree symbol.

`\unit` argument	desired	`\unit` output
`37°`	37°	37 °
`37 °`	37°	37 °
`37 deg`	37°	37 deg
`37 degree`	37°	37 degree
`37 degrees`	37°	37 degrees
`48 arcminute`	48′	48 arcminute
`49 arcsecond`	49″	49 arcsecond
`360 deg per second`	360°/s	360 deg per second
`360 degree per second`	360°/s	360 degree per second
`360 degrees per second`	360°/s	360 degrees per second
`360 degree / second`	360°/s	360 degree / second
`99 percent`	99%	99 %

There seems to be some problem parsing the `per` syntax, too, in the above examples.

`metre` and `meter` should be accepted as synonyms; likewise `litre` and `liter`.

SI has approved alternate symbols l and L for litre, not favouring one or the other (but in Australia, the AGSM prefers L). Some people use italic *l* or math script ℓ although it is not approved SI usage. But perhaps we need a key to `\setupunits` called `litresym=L|l|italic|script` (default `L`).

`\unit` argument	desired	`\unit` output
`1 metre per second`	1 m/s	1 m
`1 metre / second`	1 m/s	1 m
`1 meter per second`	1 m/s	1 mpers
`1 meter / second`	1 m/s	1 m/s
`1 liter / second`	1 L/s	1 l/s
`1 litre / second`	1 L/s	1 l

Temperature symbols should be '℃' and '' (Unicode 2103 and 2109; the latter for Fahrenheit does not seem to print in this setup). Note that the actual unit symbol for Celsius is ℃, not a ° qualified with a C.

Some English style guides suggest no space between the number and the symbol (logical given the treatment of plane degrees), others (notably BIPM) insist on space (since it's a unit like any other). A key to `\setupunits` perhaps called `spacetemp=yes|no` (default `yes`) is called for.

The syntax like `degree celsius` should be accepted (it is since the latest beta) but see below for other multi-word examples).

`\unit` argument	desired	`\unit` output
`0 celsius`	0 °C	0 C
`32 fahrenheit`	32 °F	32 F
`0.123 ohm per celsius`	Ω/°C	0.123 ΩperC
`5 watt per meter celsius`	5 W/m·°C	5 Wperm·C
`100 degree celsius`	100 °C	100 °C
`212 deg fahrenheit`	212 °F	212 °F

The following seem to be errors in the names of or symbols for units in `phys-unit.lua`:

`\unit` argument	desired	`\unit` output
`101.3 megahertz`	101.3 MHz	101.3 Mhz
`-3 decibel`	−3 dB	−3 decibel
`200 lux`	0.34 lx	200 lux
`99 permille`	99‰	99 permille

The following seem to be omissions from `phys-unit.lua`:

`\unit` argument	desired	`\unit` output
`3 tonne`	3 t	3 tonne
`0.34 katal`	0.34 kat	0.34 kat·al
`12 kilo dalton`	12 kDa	12 kilo dalton

The following multi-word sequences and exceptions are probably in the 'too hard basket' (although the surd or root operator can probably be added easily).

`\unit` argument	desired	`\unit` output
`3.67 electron volt`	3.67 eV	3.67 electron volt
`3 metric ton`	3 t	3 m
`1.234 micron`	1.234 µm	1.234 µN
`1 milli volt per root hertz`	1 mV/√Hz	1 mV

Some further notes:

1. There is no hope of supporting all the scientific units used in obscure and specialised fields. So `\unit` should do its best to handle units it can't parse.

2. Scientists and engineers will generally enter SI symbols directly, but `\unit` should still provide consistent spacing between number and unit. At present it seems to slip in some extra space (see `electron volt`) above.

3. `1234\unit{m}` should print equivalently to `\unit{1234m}` and `\unit{1234 m}`. (I have a lot of text that uses a `\unit` macro like that.)

4. Within `phys-dim.lua` all the units and all the prefixes seem to have capitalised names; in fact, they should be all lowercase (even when they are named after some person). The exception is Celsius.

5. Imperial (US 'customary units') are not well supported. (Personally I don't care, Australia ditched the imperial system in 1970.)

6. I wonder whether `\unit` should only parse and format units, and have another macro `\quan` or `\quantity` to handle number+unit combinations (obviously using `\digit` and `\unit`).

Possible extensions:

7. Some texts have a List of Units (in frontmatter or somewhere) listing all units used in the document. Someone might want that capability.

8. Automatic selection/normalisation of multiplier prefixes: so an argument of (say) `1234 kilo joule` prints as 1.234 MJ.

9. The LaTeX `siunitx` package could be dredged for useful features not supported by `\unit`. It does seem to have a mechanism to *add* unit symbols; that alone might be a good extension (`\defineunit{unit}{symbol}`?).

ConTeXt MKIV 2011.11.23 18:58