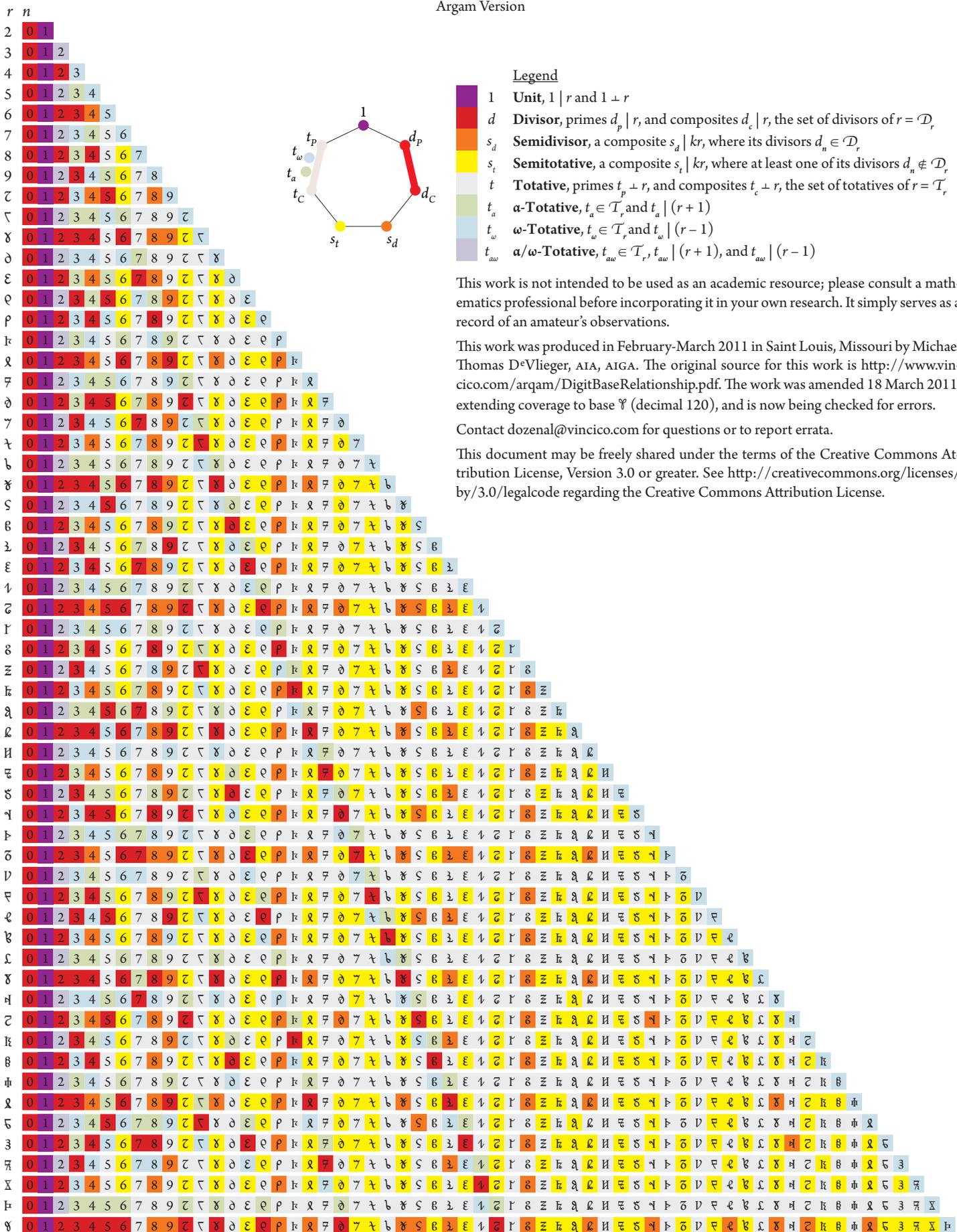


# Relationship of Digits $n$ to Bases $r$

Argam Version



## Legend

- 1 Unit,  $1 \mid r$  and  $1 \perp r$
- $d$  Divisor, primes  $d_p \mid r$ , and composites  $d_c \mid r$ , the set of divisors of  $r = \mathcal{D}_r$
- $s_d$  Semidivisor, a composite  $s_d \mid kr$ , where its divisors  $d_n \in \mathcal{D}_r$
- $s_t$  Semitotative, a composite  $s_t \mid kr$ , where at least one of its divisors  $d_n \notin \mathcal{D}_r$
- $t$  Totative, primes  $t_p \perp r$ , and composites  $t_c \perp r$ , the set of totatives of  $r = \mathcal{T}_r$
- $t_a$   $\alpha$ -Totative,  $t_a \in \mathcal{T}_r$  and  $t_a \mid (r+1)$
- $t_\omega$   $\omega$ -Totative,  $t_\omega \in \mathcal{T}_r$  and  $t_\omega \mid (r-1)$
- $t_{\omega\omega}$   $\alpha/\omega$ -Totative,  $t_{\omega\omega} \in \mathcal{T}_r$ ,  $t_{\omega\omega} \mid (r+1)$ , and  $t_{\omega\omega} \mid (r-1)$

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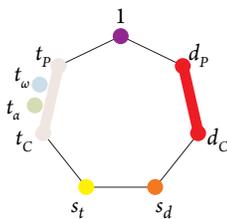
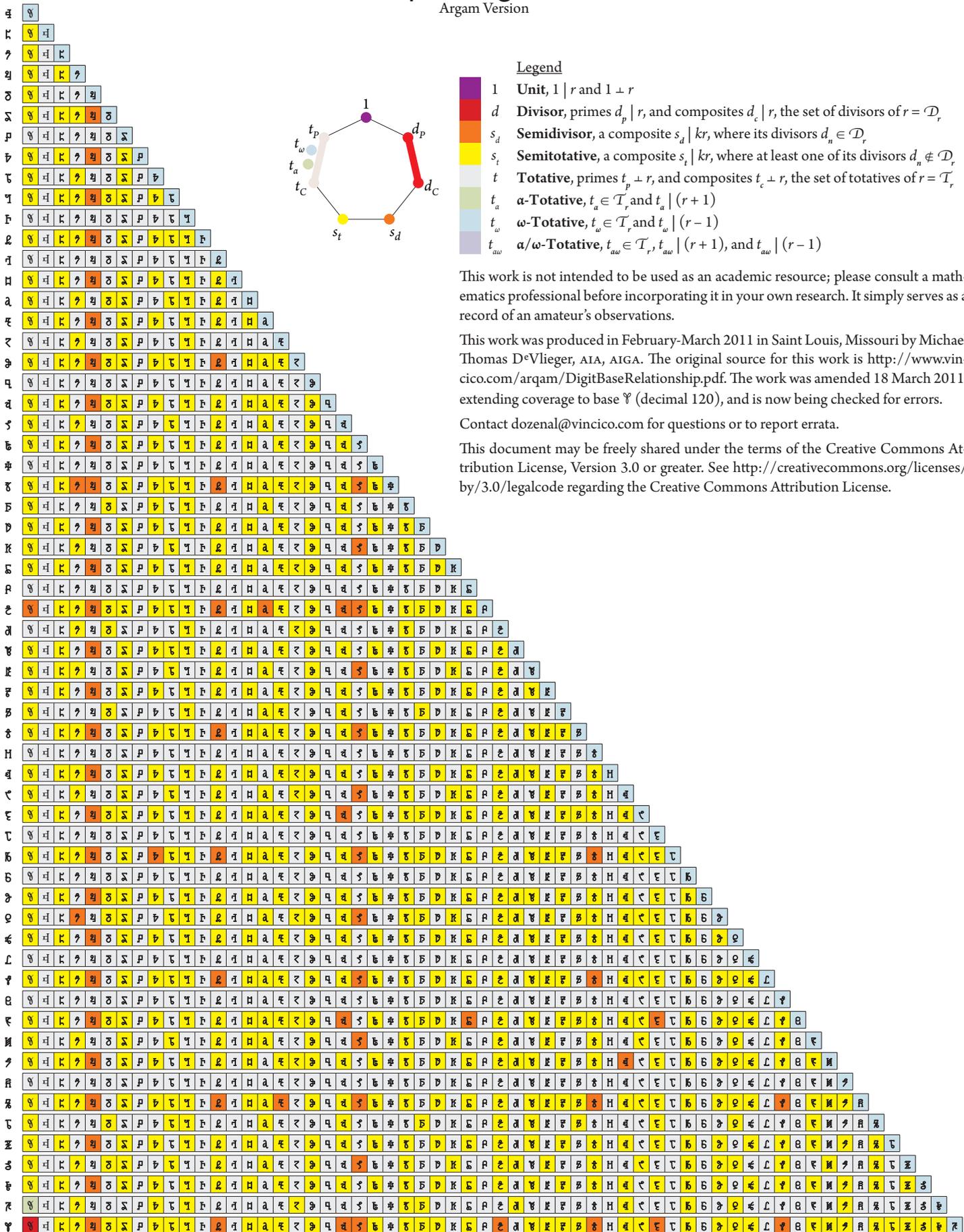
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# Relationship of Digits $n$ to Bases $r$

Argam Version



## Legend

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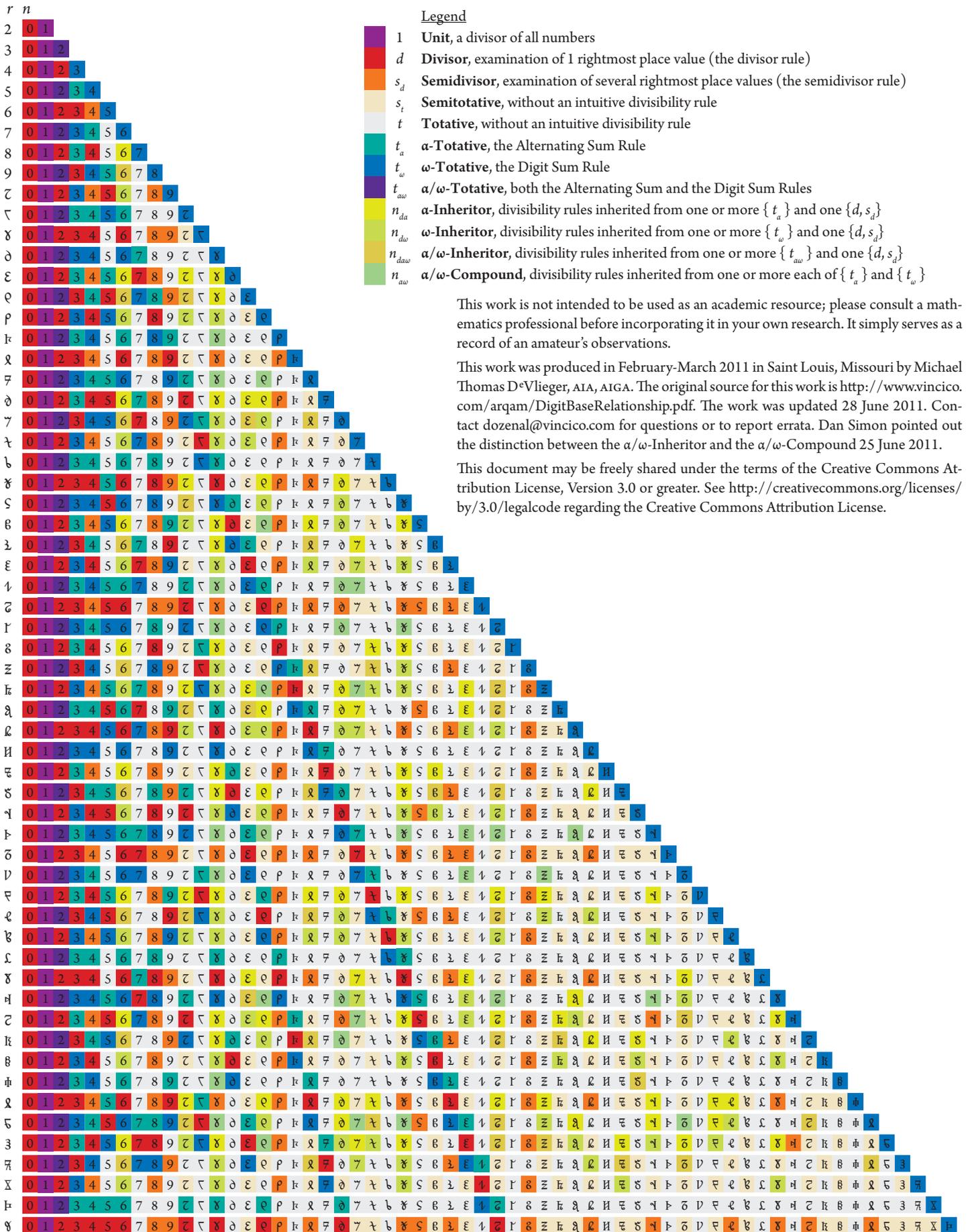
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# Intuitive Divisibility Rules for Digits $n$ in Bases $r$



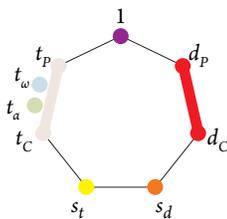
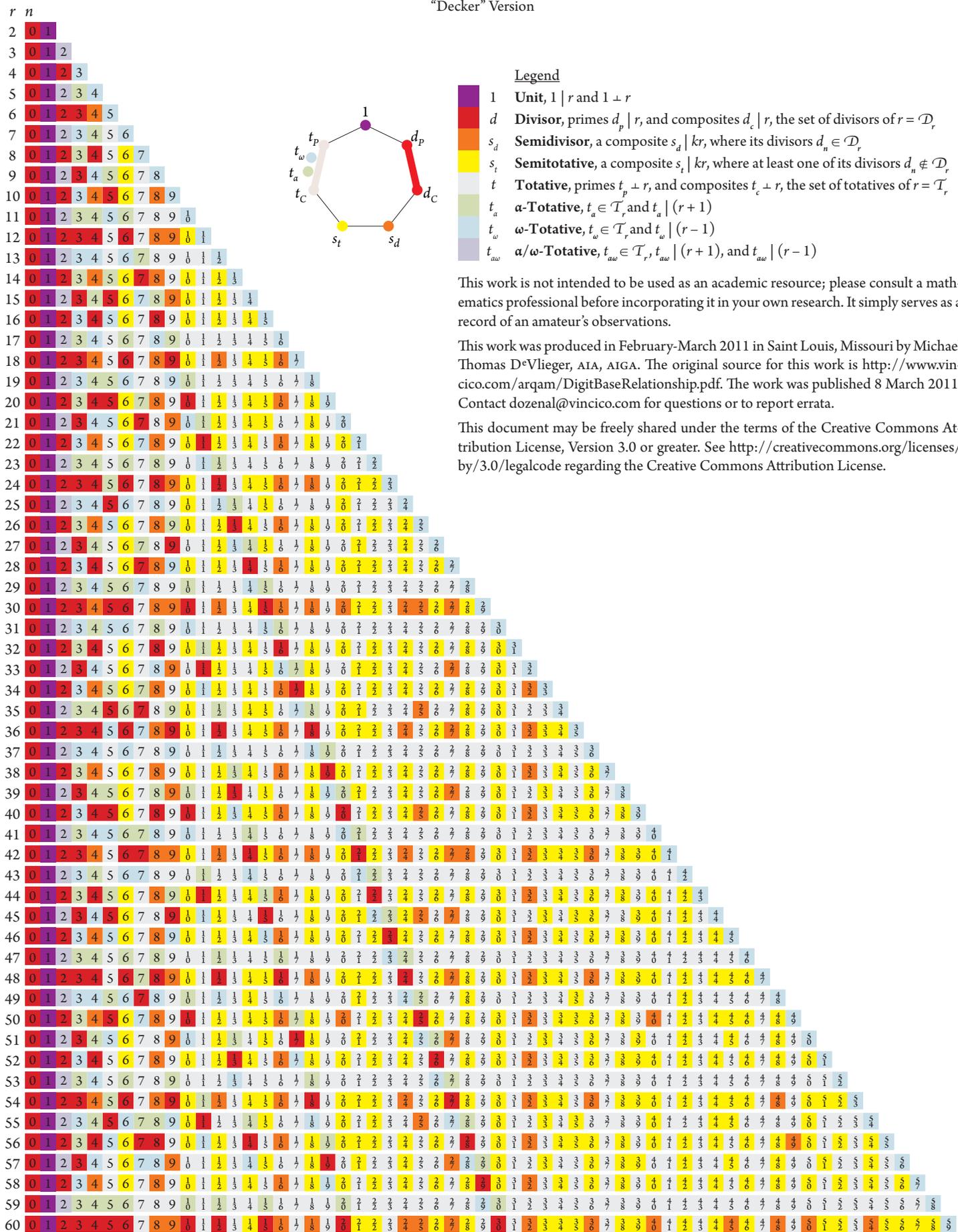
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# Relationship of Digits $n$ to Bases $r$

"Decker" Version



## Legend

- 1 Unit,  $1 \mid r$  and  $1 \perp r$
- $d$  Divisor, primes  $d_p \mid r$ , and composites  $d_c \mid r$ , the set of divisors of  $r = \mathcal{D}_r$
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- $t$  Totative, primes  $t_p \perp r$ , and composites  $t_c \perp r$ , the set of totatives of  $r = \mathcal{T}_r$
- $t_a$   $\alpha$ -Totative,  $t_a \in \mathcal{T}_r$  and  $t_a \mid (r+1)$
- $t_\omega$   $\omega$ -Totative,  $t_\omega \in \mathcal{T}_r$  and  $t_\omega \mid (r-1)$
- $t_{\alpha\omega}$   $\alpha/\omega$ -Totative,  $t_{\alpha\omega} \in \mathcal{T}_r$ ,  $t_{\alpha\omega} \mid (r+1)$ , and  $t_{\alpha\omega} \mid (r-1)$

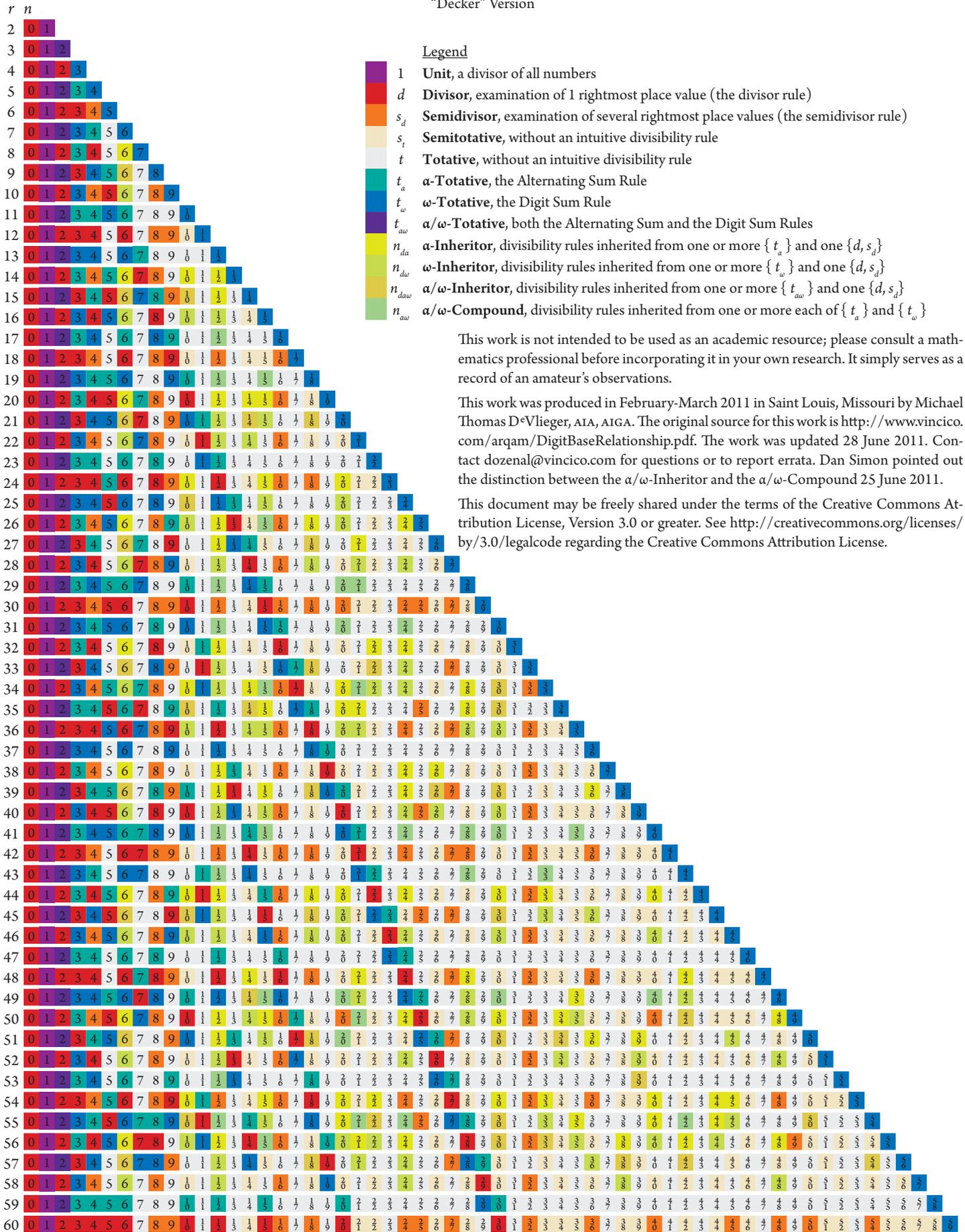
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# Intuitive Divisibility Rules for Digits $n$ in Bases $r$

"Decker" Version



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