The aim of this talk is to propose an original and theory-derived interpretation of Vowel Harmony. I suggest that Vowel harmony does not result from spreading or copy, but from a reorganization of phonological space.

I base my analysis on the idea that Vowel Harmonies are conditioned by prominence (see Garde 1968, Majors 1998, Klein 2000, Walker 2011, etc): assimilation targets the prominent syllable (e.g. Old Norse, 1a) or the non prominent syllables (e.g. Finnish, 1b).¹

(1) a. Metaphony
   'd[a]g-r ‘day-nom.sg’
   'kyl[æ]-ss[æ] ‘in the village’

   b. Proper Vowel Harmony
   'd[ɔ]g-um ‘day-dat.pl’
   'saun[ɑ]-ss[ɑ] ‘in the sauna’

My claim is that the processes in (1) can be predicted from the representation of prominence. Following Garde (1968:47), the distinction between strong and weak positions is quantitative. The strong position is nothing but a weak position plus “something” (2a). This proposition is logically equivalent to the proposition in (2b): the weak position is nothing but a strong position minus “something”.

(2) a. \[ S = W+x \]

   b. \[ \Rightarrow W = S-x \]

   \( S = \text{strong}, \ W = \text{weak} \)

Based on lengthening effects, studies in Government Phonology argue that the “something” that distinguishes strong and weak syllables is a chunk of phonological space (e.g. Chierchia 1986, Larsen 1998, Scheer 2000, Enguehard 2016, etc). Additionally, studies on Virtual Length (Carvalho 1994, Bendjaballah 1999, Ségéral & Scheer 2001, Barillot 2002, etc) put forward that space can be interpreted vertically or horizontally (3), i.e. as a tier or as a slot.

(3) \[ x \quad x \quad x \quad x \quad \Leftrightarrow \quad x \quad x \]

Now, three possible mechanisms can derive the equation in (2): i. addition (4), ii. deletion (5), or iii. redistribution of space (6). I show that these correspond to phonological processes.

In (4), prominence is manifested by addition of space to the strong syllable (represented by □). The horizontal addition (4a) accounts for phenomena such as Tonic Vowel lengthening (Chierchia 1986, Larsen 1998). The vertical addition (4b) corresponds to metaphonies resulting in a greater vowel inventory in strong syllables (see Old Norse in 1a).

(4) Addition

a. \[
\begin{array}{|c|c|}
\hline
S & W \\
\hline
\end{array}
\rightarrow
\begin{array}{|c|c|}
\hline
S & \square & W \\
\hline
\end{array}
\]

b. \[
\begin{array}{|c|c|}
\hline
S & W \\
\hline
\end{array}
\rightarrow
\begin{array}{|c|c|}
\hline
\square & W \\
\hline
\end{array}
\]

In (5), prominence is manifested by a removed space in weak syllables (represented by \( \Rightarrow \)). The horizontal deletion (5a) corresponds to Unstressed Vowel Shortening (e.g. Norman French diphthong [ˈkɔw] ‘hot’ monophthongized in [koˈfe] ‘to hot’). The vertical deletion (5b) corresponds to Vowel Reductions resulting in a smaller vowel inventory in weak syllables (e.g. mid vowels are never observed in Russian unstressed syllables).

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¹ Prominence does not necessarily correspond to phonetic stress. In Turkish, the prominent syllable is the initial one, but the phonetically stressed syllable is the final one (Garde 1968).
Deletion

\[ \text{S} \text{W} \rightarrow \text{S} \text{W} \]

Vowel Harmony is structurally similar to Vowel Reduction: it implies a loss of contrast in unstressed vowels (Garde 1968). The only difference is that the realization of Vowel Harmony depends on the quality of the strong nucleus. Such a dependence corresponds to the third possible manifestation of prominence (6). In this last case, prominence is achieved by redistribution of space from the weak syllable to the strong syllable. Horizontal redistribution (6a) corresponds to compensatory tonic lengthenings (e.g. \textit{klaa} > Livonian \textit{kg\'lla} ‘fish-part.sg’). As for vertical redistribution (6b), it corresponds to Proper Vowel Harmony (see 1b).

Redistribution

\[ \text{S} \text{W} \rightarrow \text{S} \text{W} \]

In Figure (7), the features of the strong vowel do not spread or copy. However, a whole tier is reassigned to the strong vowel in order to match (2). This vowel cannot be [F] and not-[F] at the same time. Thus, its own value is imposed on the tier to the whole word. Hence harmony.

Following this interpretation, Vowel harmony is not initiated by the “trigger” or the “target”. It is initiated by a reorganization of the phonological space conditioned by prominence. In other terms, the vowels of the word harmonize in [F] because the tier of [F] is entirely captured by the prominent vowel in order to match the equation in (2).