In fact, for all $a_i \in A$, $i \in \underline{n}$,

$$
\begin{aligned}
& D[a_1,\cdots,a_n] - \sum_{j=1}^{n}[a_1,\cdots,Da_j,\cdots,a_n] \\
&= D\begin{vmatrix} D_1a_1 & D_1a_2 & \cdots & D_1a_n \\ D_2a_1 & D_2a_2 & \cdots & D_2a_n \\ \cdots & \cdots & \cdots & \cdots \\ D_na_1 & D_na_2 & \cdots & D_na_n \end{vmatrix} \\
&\quad - \sum_{j=1}^{n}\begin{vmatrix} D_1a_1 & D_1a_2 & \cdots & D_1Da_j & \cdots & D_1a_n \\ D_2a_1 & D_2a_2 & \cdots & D_2Da_j & \cdots & D_2a_n \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ D_na_1 & D_na_2 & \cdots & D_nDa_j & \cdots & D_na_n \end{vmatrix} \\
&= \sum_{j=1}^{n}\begin{vmatrix} D_1a_1 & D_1a_2 & \cdots & DD_1a_j & \cdots & D_1a_n \\ D_2a_1 & D_2a_2 & \cdots & DD_2a_j & \cdots & D_2a_n \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ D_na_1 & D_na_2 & \cdots & DD_na_j & \cdots & D_na_n \end{vmatrix} \\
&\quad - \sum_{j=1}^{n}\begin{vmatrix} D_1a_1 & D_1a_2 & \cdots & D_1Da_j & \cdots & D_1a_n \\ D_2a_1 & D_2a_2 & \cdots & D_2Da_j & \cdots & D_2a_n \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ D_na_1 & D_na_2 & \cdots & D_nDa_j & \cdots & D_na_n \end{vmatrix} \\
&= -\sum_{j=1}^{n}\begin{vmatrix} D_1a_1 & D_1a_2 & \cdots & [D_1,D]a_j & \cdots & D_1a_n \\ D_2a_1 & D_2a_2 & \cdots & [D_2,D]a_j & \cdots & D_2a_n \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ D_na_1 & D_na_2 & \cdots & [D_n,D]a_j & \cdots & D_na_n \end{vmatrix} \\
&= -\sum_{j=1}^{n}\begin{vmatrix} D_1a_1 & D_1a_2 & \cdots & \sum_{i=1}^{n}(D_1x_i)(D_ia_j) & \cdots & D_1a_n \\ D_2a_1 & D_2a_2 & \cdots & \sum_{i=1}^{n}(D_2x_i)(D_ia_j) & \cdots & D_2a_n \\ \cdots & \cdots & \cdots & \cdots & \cdots & \cdots \\ D_na_1 & D_na_2 & \cdots & \sum_{i=1}^{n}(D_nx_i)(D_ia_j) & \cdots & D_na_n \end{vmatrix} \\
&= -\left(\sum_{i=1}^{n} D_ix_i\right)\begin{vmatrix} D_1a_1 & D_1a_2 & \cdots & D_1a_n \\ D_2a_1 & D_2a_2 & \cdots & D_2a_n \\ \cdots & \cdots & \cdots & \cdots \\ D_na_1 & D_na_2 & \cdots & D_na_n \end{vmatrix} \\
&= -\left(\sum_{i=1}^{n} D_ix_i\right)\cdot[a_1,\cdots,a_n].
\end{aligned}
$$

Let us now consider the left multiplications. We claim that (1.8) is true for any left multiplication $D = \mathrm{ad}(a_1,\cdots,a_{n-1})$ because we can write $D = \sum_{i=1}^{n} x_iD_i$, where