A theorem involving self-conjugate $n$-color partitions was proved by A.K. Agarwal and R. Balasubramanian in their paper entitled $n$-Color Partitions with Weighted Differences Equal to Minus Two, *Internat. J. Math. Math. Sci.*, Vol. 20, No. 4 (1997), 759-768. There are some errors in this theorem which are corrected as follows:

**THEOREM 1.** Let $A(\nu)$ denote the number of $n$-color self-conjugate partitions of $\nu$ such that each part is self-conjugate. Let $B(\nu)$ denote the number of ordinary partitions of $\nu$ into odd parts. Then $A(\nu) = B(\nu)$, for all $\nu \geq 0$. Hence

$$1 + \sum_{\nu=1}^{\infty} A(\nu)q^\nu = \prod_{n=1}^{\infty} \frac{1}{1 - q^{2n-1}}.$$  

**EXAMPLE.** $A(5) = 3$, since the relevant partitions are $5$, $31111$, and $111111$. Also, $B(5) = 3$, since in this case the relevant partitions are $5$, $3111$, and $11111$.

**THEOREM 2.** Let $C(\nu)$ denote the number of all $n$-color self-conjugate partitions of $\nu$. Let $D(\nu)$ denote the number of partitions of $\nu$ such that each even part $2n$ can come in $[n/2]$, where $[\cdot]$ is the greatest integer function, different colors denoted by $(2n)_1, (2n)_2, \cdots, (2n)_{[n/2]}$.

Then $C(\nu) = D(\nu)$, for all $\nu \geq 0$. Hence,

$$1 + \sum_{\nu=1}^{\infty} C(\nu)q^\nu = \prod_{n=1}^{\infty} (1 - q^{2n-1})^{-1}(1 - q^{2n})^{-[n/2]}.$$  

**EXAMPLE.** $C(5) = 4$, since the relevant partitions are $5$, $31111$, $22111$, $111111$. Also, $D(5) = 4$. In this case the relevant partitions are $54111$, $31111111$.

**PROOF OF THEOREM 1.** Let $\Pi$ be an $n$-color partition enumerated by $A(\nu)$. Then in each part $m_i$ of it, $m$ must be odd. Because $m_i = m_{m-i+1} \Rightarrow m = 2a - 1$. Thus if we ignore the subscripts of all parts in $\Pi$, we get a unique ordinary partition of $\nu$ into odd parts. Conversely, if we consider an ordinary partition of $\nu$ into odd parts and replace each part $2a - 1$ by $(2a - 1)_a$ we get a unique partition enumerated by $A(\nu)$. This bijection proves Theorem 1.

**PROOF OF THEOREM 2.** Let $\sigma$ be an $n$-color partition enumerated by $C(\nu)$. This implies that the parts of $\sigma$ are either self-conjugate or they appear in pairs of mutually conjugate parts. It was observed in the proof of Theorem 1 that a part can be self-conjugate if it is odd. Also, the number of pairs of mutually conjugate parts corresponding to any even integer $2n$ is $[n/2]$. These arguments together prove Theorem 2.

**REMARK.** It was shown in [1] that $C(\nu)$ of Theorem 2 also equals the number of symmetric plane partition of $\nu$.

REFERENCES

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