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Correction to "The image of J in the EHP sequence" 116 (1982), 65–112

By Mark Mahowald

There are several misprints and one error which make the latter part of my paper [M1] very difficult to read. It is my intention here to list them with the corrections. In addition there was an error in my paper [M2]. This affects the statements of Theorems 2.5c and 2.6c which were results proved in [M2]. This is discussed in the correction to that paper.

In Theorem 7.7 on page 96 every occurrence of $|j|_2$ should be replaced by $|2j|_2$. This gives a theorem which is in fact proved by the argument which follows. The corrected theorem is:

Theorem 7.7. *In the spectral sequence* $\{E_r(\mathfrak{X}(P))\}$, *the class* 1_{4j-1} *in* $E^{0,4j-1}$ *is a cycle in* $E_{|2j|_2}$ *and* $\delta_{|2j|_2}1_{4j-1} \neq 0$ *if* $E_1^{|2j|_2, 4j-2+|2j|_2} \neq 0$. *This formula implies all the differentials.*

A similar error occurs in the statement of Theorem 7.9 and so we just state the corrected theorem.

Theorem 7.9. *Each class* a *in* $E_1^{s,t}(\mathfrak{X}(P^{2n}))$ *for* $t - s = 4j - 1$ *projects to a cycle in* $E_{|2j|_2}$ *and* $\delta_{|2j|_2}a \neq 0$ *if* $E_{|2j|_2}^{s+|2j|_2, t+|2j|_2+4j-2} \neq 0$. *This formula implies all the differentials.*

In the tables which follow there are several misprints also. In particular, in the last two lines on page 98, "$j = 8k + i$" should read "$j = 8k - i$". In the second line on page 99, the group $\mathbf{Z}/2^{|4n|_2}$ should be $\mathbf{Z}/2^{|4(n+1)|_2}$.

An error of a more serious nature occurs in the proof of Theorem 7.11. On page 101, a homotopy class β is produced which is stable and, as a stable class, has Adams filtration ≥ 4. It is not clear why, as an unstable class with the properties given in the proof on that page, this filtration should be preserved. A correct proof of Theorem 7.11 has been found and is given in [BJM]. The error was also observed by Davis [D].

Finally the statement of Theorem 8.4 was completely garbled. The correct theorem is:

THEOREM 8.4. *If $j \geq 15$ then the origin of the generator of the image of the J homomorphism in the j-stem is*: 3 *if* $j \equiv 0(8)$, 2 *if* $j \equiv 1(8)$, *and* 5 *if* $j \equiv 3(8)$. *If $j = 8k - 1$ and $j \geq 15$ then the element in the image of J of order 2^a in the j-stem has sphere of origin given by*:

$$\begin{aligned} \textit{sphere of origin} &= 5 + 8b \textit{ for } a = 1 + 4b \\ &= 6 + 8b \qquad\quad\ = 2 + 4b \\ &= 7 + 8b \qquad\quad\ = 3 + 4b \\ &= 1 + 8b \qquad\quad\ = 4b. \end{aligned}$$

There are several other misprints which do not seem to make the paper unreadable.

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[BJM] M. G. BARRATT, J. D. S. JONES and M. E. MAHOWALD, The Hopf invariant and the Kervaire invariant, to appear.

[D] D. S. DAVIS, Review of ref. [M1], Math Reviews, **83i** (1983), 3785.

[M1] M. E. MAHOWALD, The image of J in the *EHP* sequence, Ann. of Math. **116** (1982), 65–112.

[M2] ———, bo resolutions, Pac. J. of Math. **92** (1981), 365–383. Correction, **111** (1984), 117–123.

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