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ERRATA
CORRECTION TO POINCARÉ COBORDISM EXACT SEQUENCES AND CHARACTERISATION

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In view of the remarks of the reviewer (cf. MR **91j: 57021**) we give the following clarifications for the benefit of the reader:

1. Theorem (B) page 86 remains true.
2. Theorem (D) page 87 now states the following:

An element $[X] \in \Omega_n^{\text{P.D.}}$ is zero if and only if

(i) $n \not\equiv 0 \pmod 4$ and all integral as well as $\mathbb{Z}/p$-normal spherical characteristic numbers of X, $\forall$ prime p, are zero.

(ii) $n \equiv 0 \pmod 4$ and all integral and $\mathbb{Z}/p$-normal spherical characteristic numbers of X, $\forall$ prime p, and index of X are zero.

3. The arguments on lines 17 to 19 of page 97 should be given as follows:

and integral as well as $\mathbb{Z}/p$-normal spherical characteristic numbers $\forall$ odd prime p, and index of X are zero (x being a 2-torsion element) hence $(Z, \tilde{g} \times \lambda, \tilde{c} \times \tilde{\lambda})$ determines (X, f, b) up to oriented cobordism by 2 above.

Justification of 1. First of all the Proposition (5.2) page 94 now remains valid for n odd only. This change however does not affect the definition of ∂ as given in (5.4), (5.5) page 95 and (5.6) page 96 as injectivity of P of Proposition (5.2) is not needed anywhere.

Next, proofs of parts (i) and (ii) of Theorem (B) page 96 do not need injectivity of P of Theorem (5.2) page 94. Lastly, the proof of Theorem (B) part (iii) page 97 for $n \equiv 0 \pmod 2$ can be made free from Proposition (5.2) page 94 by using the following purely geometrical arguments: The proof of $\partial \circ r = 0$ is the same as in the paper. Let $[(X^n, f, b)] \in \operatorname{Ker} \partial$. Choose a representative (Z^{n-1}, f, b) of $\partial([(X, f, b)])$ such that Z^{n-1} is an oriented P.D. space Poincaré embedded in X^n. (In fact $f\colon X \to \text{BSG}(k-1) \times S^1 \xrightarrow{\pi_2} S^1$ is

Poincaré splittable by the first remark of the Reviewer. So f can be homotoped to a map transverse to $pt \subseteq S^1$. One can then take $Z \subseteq X$ to be the inverse image of the point under this transverse map.) By hypothesis Z^{n-1} is an oriented boundary, so we have a triple $((Y^n, Z^{n-1}), g, \beta)$ where (Y^n, Z^{n-1}) is an oriented P.D. pair with $g|Z^{n-1} = \overline{f}$, $\beta|\nu_Z = \overline{b}$. If we now cut X along Z (along which the orientation of X changes) we get an oriented P.D. pair $(\overline{X}^n, Z^{n-1} \cup -Z^{n-1})$. Glue one copy of (Y^n, Z^{n-1}) along each copy of Z^{n-1} in the pair $(\overline{X}, Z \cup -Z)$, respecting orientation, to get an oriented P.D. space $\widetilde{Y}^n$. So $[(\widetilde{Y}, f \cup g, b \cup \beta)] \in \Omega_n^{\mathrm{P.D.}}$.

Now consider the triple

$$((\widetilde{Y} \times I, \widetilde{Y} \times \{0\} \cup \widetilde{Y} \times \{1\}), (f \cup g) \times 1_I, (b \cup \beta) \times 1_I)$$

and glue the two copies of (Y^n, Z^{n-1}) in $Y \times \{1\}$ together to get a triple

$$((W^{n+1}\widetilde{Y} \times \{0\}, X), \overline{(f \cup g) \times 1_I}, \overline{(b \cup \beta) \times 1_I}).$$

This gives a cobordism between $(\widetilde{Y}, f \cup g, b \cup \beta)$ and (X, f, b) in $\widetilde{N}_n^{\mathrm{P.D.}}$. So $r([(\widetilde{Y}, f \cup g, b \cup \beta)]) = [(X, f, b)]$.

Justification of 2. On pages 98 and 99 wherever statements involving cohomology with $\mathbb{Z}$ coefficients alone are used we should change it to statements involving cohomology with $\mathbb{Z}$ as well as $\mathbb{Z}/p$, $\forall$ prime p, as coefficients. So in particular on page 99 the first diagram should be supplemented with a similar diagram involving cohomology with $\mathbb{Z}/p$-coefficients, $\forall$ prime p. So $\Lambda = \mathbb{Z}$ or $\mathbb{Z}/p$, $\forall$ prime p if $[(y, g, b)] \in \Omega_n^{\mathrm{P.D.}}$.

Finally we thank the reviewer Ian Hambleton for bringing the inaccuracies to our notice.

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