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**Addition and correction to the paper
"On stability and products"
Fund. Math. 93 (1976), pp. 81-95**

by

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In the paper quoted in the title the second part of Corollary 5.5 was formulated wrongly. Namely it should have the following form:

The class of all ω -stable theories for which a_T is finite is closed under finite products.

Now we shall show that " ω -stable" cannot be omitted. The notation and terminology are taken from [1].

Namely, let $\mathfrak{B} = \langle Q \cup (Q \times Q \times Q), W, C, D, R, \sim_n \rangle_{n \in \omega}$, where

Q is the set of rational numbers,

W is a unary relation and $W(a)$ iff $a \in Q$,

C is a unary relation and $C(a)$ iff $a \notin Q$,

D is a ternary relation and $D(a, b, c)$ iff $W(a)$, $W(b)$ and $\exists q \in Q$, $c = \langle a, b, q \rangle$,

R is a ternary relation and $R(a, b, c)$ iff $D(a, b, c)$ and

$$\begin{cases} a < b \rightarrow \exists q \in Q c = \langle a, b, q \rangle \text{ and } q \text{ is a natural number,} \\ a \geq b \rightarrow \exists q \in Q c = \langle a, b, q \rangle \text{ and } q \neq 0, \end{cases}$$

\sim_n are equivalence relations on Q with infinitely many classes and \sim_{n+1} divides every equivalence class of \sim_n into infinitely many equivalence classes of \sim_{n+1} . Moreover every equivalence class of \sim_n is a dense linear ordering without endpoints (with the ordering taken from Q).

Note that we can define a formula which linearly orders W into type η .

Fact 1. For every $\mathfrak{A} \models \text{Th}(\mathfrak{B})$ and every $p \in \text{SA}$ either $\text{rank}(p) = 0$, either $\text{rank}(p) = 1$, or $\text{rank}(p) = \infty$.

Indeed, every type contains one of the following sets of formulas:

- 1) $\{x_0 = a\}$ for some $a \in A$,

2) $\{D(a, b, x_0), \neg R(a, b, x_0), x_0 \neq c \mid c \in A, \forall \models D(a, b, c) \wedge \neg R(a, b, c)\}$
for some $a, b \in \mathcal{W}^{\text{st}}$,

3) $\{D(a, b, x_0), R(a, b, x_0), x_0 \neq c \mid c \in A, \forall \models D(a, b, c) \wedge R(a, b, c)\}$ for
some $a, b \in \mathcal{W}^{\text{st}}$,

4) $\{W(x_0), x_0 \neq a \mid a \in A\}$,

5) $\{C(x_0), \neg D(a, b, x_0) \mid a, b \in A, \forall \models W(a) \wedge W(b)\}$.

By an argument involving automorphisms we can see that in case 1 we have types of rank 0, in cases 2 and 3 types of rank 1 and in cases 4 and 5 types of rank ∞ .

So we get

Fact 2. $\alpha_{\text{Th}(\mathfrak{B})} = 2$.

Fact 3. $\alpha_{\text{Th}(\mathfrak{B} \times \mathfrak{B})} > \omega$.

Note that we have no formula which linearly orders an infinite set in $\mathfrak{B} \times \mathfrak{B}$.
Now let p be the following type, $p \in S(B \times B)$:

$$\{\neg(x_0 \sim_n \langle a, b \rangle) \mid n \in \omega, a, b \in Q\} \cup \{W(x_0)\}.$$

It is easily seen that $\text{rank}(p) \geq \omega$. On the other hand similar reasoning as in Example 1.5 of [1] shows us that $\text{Th}(\mathfrak{B} \times \mathfrak{B})$ is ω -stable, so $\text{rank}(p) < \infty$. From the above facts we get $\alpha_{\text{Th}(\mathfrak{B} \times \mathfrak{B})} > \omega$.

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