Supplements and corrections to my paper:

On the automorphisms of a real semi-simple Lie algebra.

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In the present paper we give supplements and corrections to the paper mentioned in the title. We abbreviate this paper by [A].

Supplements.

In [A] we had to depend essentially on the theorems of Gantmacher which allows us to describe the situation of a real semi-simple Lie algebra in its complex form by making use of the concept of a particular rotation. We have introduced in [A] p. 112 this latter concept in an apparently different way from the one originally given by Gantmacher. But the equivalency of both concepts is justified by another theorem of Gantmacher, so that we could avail ourselves of his theorems. However, he obtained these theorems after long considerations on the automorphisms of a complex semi-simple Lie algebra. In these circumstances, we shall prove here anew, starting from our definition of the particular rotation, the required results. This will make us free from the theorems of Gantmacher used in the previous paper [A].

Let $\mathfrak{G}$ be a complex semi-simple Lie algebra with the canonical basis

$$ h_1, \cdots, h_l, c_\alpha, c_{-\alpha}, \cdots $$

and $\mathfrak{G}_u$ the unitary restriction of $\mathfrak{G}$ with respect to this basis (see [A].