Review of: "Annihilation-free chemical theory of subatomic particles"

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Potential competing interests: No potential competing interests to declare.

After seeing the excellent review by Zoltan Trocsanyi <https://www.qeios.com/read/7JCGUV> I can only add a few questions and comments, that come to my mind when reading the article and trying to understand the intention of the authors:

1st Question: To which extent is the introduced "annihilation-free chemical model" compatible with Special Relativity?
In other words: How can the photon as a composite particle be described as exactly massless?

2nd Question: In which sense is the usage of Noether's theorem (p.12, sec.5) compatible with the request to "appraise the theory for its own merits ... rather than with respect to criteria specific to Quantum Field Theory (QFT)"?

3rd Question: Why would I want to model the interaction of elementary particles by a chemical model at all?
In a chemical model, the exchanged energies are tiny (many orders of magnitude smaller) than the rest energies of the participating particles, whereas in elementary particle reactions the exchanged energies can vastly exceed the rest energies of the participating particles. This hints to me, that a chemical model is much more restricted than we see in particle interactions.

1st Comment: The very enlightening lecture by David Tong, <https://www.damtp.cam.ac.uk/user/tong/qft.html>, answers several of the questions that the authors pose as remarkable on p.2, last paragraph.

With best regards,
Thomas Gajdosik