Excerpts from the Book *Broken Physics*

Notation:
EM – Electromagnetic.
RCMT and DDWIT – the theories that are supported in this book.
SM – The Standard Model of Particle Physics.

9.2 A Unification of a Pair of Interactions

Like in other cases of theoretical work in physics, an adequate examination of the relevant data is a good starting point. Tables 9.1 and 9.2 demonstrate an inherent difference between this book and the SM. In each table, each row shows one of the three relevant interactions. The three rightmost columns, each shows a fundamental physical effect. Two rows pertaining to a pair of interactions that have a common theoretical basis are grouped together. The entries "YES/NO" denote the case where every process dominated by a specific interaction does or does not have the experimental property of the corresponding effect.

Table 9.1: Interaction Unification in the RCMT. Conserv. denotes Conservation.

Theory	Interaction	Parity Conserv.	Flavor Conserv.	Photon Interaction
RCMT	Strong EM	YES YES	YES YES	YES YES
DDWIT	Weak	NO	NO	NO

Table 9.2: Interaction Unification in the SM.

Theory	Interaction	Parity Conserv.	Flavor Conserv.	Photon Inter.
QCD	Strong	YES	YES	YES
Electroweak	EM Weak	YES NO	YES NO	YES NO

Table 9.1 shows that the theories supported by this book adhere to the meaning of fundamental experimental data. The strong and electromagnetic interactions are grouped together, and the data firmly supports this issue. Table 9.2 proves that the case of the SM is completely different. Its electroweak theory unifies the electromagnetic and weak interactions. Hence, *the electroweak theory must use a mathematical framework that describes intrinsically different physical data.* Furthermore, the SM ignores the significant similarity between strong and electromagnetic interactions. For

example, ample experimental data are supporting a hard photon-hadron interaction. SM textbooks simply do not discuss this kind of data.

This book devotes special attention to the form of the theories that describe how a Dirac particle is affected by each of the interactions shown in (9.3) This expression represents a Lagrangian density where – like in the electromagnetic case – each of the three relevant interactions is represented by one specific term.

The data that are described in Tables 9.1 and 9.2 can certainly convince an unbiased reader that this book supports a solid theoretical approach, whereas the SM is an assembly of groundless theories. The rest of this book shows *many* examples that substantiate this opinion.

The Top and the W Decay Similarity.

The top quark and the $W^{\pm}$ particles are electrically charged objects. Therefore, their decay products must comprise an electrically charged particle. The RCMT says that $W^{\pm}$ particles are mesons of the top quark. This means that similarity between the properties of these particles is likely to be found. In contrast, the SM says that the top quark is an elementary particle that is *affected* by strong, electromagnetic, and weak interactions, whereas $W^{\pm}$ are elementary particles that *mediate* weak interactions. Therefore, the SM says that the top quark and the $W^{\pm}$ are inherently different particles. Hence, any similarity between their properties is just an accidental effect (or a miracle...).

Table 14.1: The decay modes (in %) of the top quark and the W^{+} [29]

Channel	top quark	W^{+}
ν_e + X	11	11
ν_μ + X	11	11
ν_τ + X	11	11
hadrons	67	67

Table 14.1 shows the percentage (rounded to two decimal digits) of the neutrino and pure hadronic decay channels of these particles. No one can deny the striking similarity in the data. The arguments mentioned above mean that this strong similarity between the top quark and the $W^{\pm}$ particle supports RCMT. In contrast, SM supporters apparently believe in miracles.

References:

[29] P.A. Zyla et al. (Particle Data Group), Prog. Theor. Exp. Phys. 2020, 083C01 (2020).