Conformal scaling of the massformula in terms of the flat metric in the black-white plane of psychological profiles.

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Abstract

Black-white or yellow-black representing spiritual energies of living creatures automatically determine an Einsteinian spiritual mass. During $SU(2)$ valued interactions, the spiritual rest mass of a person may change due to absorption or radiative effects. We propose a general approximate formula based upon scaling covariance of the interactions for the rest mass.

1 Introduction.

In non-abelian gauge theory with spinor fields, one disposes on an interesting symmetry; scaling of the spinor field by a factor λ can be undone by a rescaling of the metric on the representation space by a factor λ^{-2}. This requires the term $\gamma^i e_i^\mu A_{\mu\,a}\tau^a$ to remain invariant given that the Dirac operator does. Henceforth, given that the metric on spacetime does not alter, the gauge covariant derivative does neither an likewise does the field strength $F_{\mu\nu\,a}$ which is the commutator of both covariant derivatives. Taking the trace

$$\mathrm{Tr}(\mathbf{F}_{\mu\nu}g^{\mu\kappa}g^{\nu\zeta}\mathbf{F}_{\kappa\zeta})$$

gives then a scalar invariant. On the other hand, rescaling the spinor field by λ and the spacetime metric by $\lambda^{2\alpha}$ scales the interaction term by $\lambda^{3\alpha+2}$ which suggests α to be $-\frac{2}{3}$. The gauge kinetic term is conformally invariant in four dimensions in the absence of a Higgs field. One could also combine the scalings

$$\lambda^{3\alpha+2}$$

where only a rescaling of the spacetime and representation metric happen $g_{\mu\nu} \to \lambda^{2\alpha}g$ and $h_{rs} \to \lambda^2 h_{rs}$ which also results in $\alpha = -\frac{2}{3}$. The spatial energy then does not scale either given that physical time does not which

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suggests effective formulae which we shall derive below.

This author has written a considerable number of papers about foundational considerations behind spiritual interactions which have been taken into account in the book publication [1]. In concreto, spiritual interactions certainly include, and are primarily limited, to a theory with two charges interacting in the most general $SU(2)$-way with general symmetry breaking by means of the Higgs. These are all very technical statements which must not sound very appealing to the social scientist. Below, we study one ramification of this assumption in the context of behaviour of persons of both sexes near one and another in the dipole approximation. It is here assumed that spiritual charges are tied to the body and hence do not alter shape so that a boundary-volume correspondance can be achieved. The latter assumption is reasonable in practice but not theoretically justified however.

2   Phenomenology explained by theory.

Suppose one has N persons and one resorts to the dipole "Coulomb" approximation where the spatially integrated densities

$$\Phi_i := \frac{\int_{\mathcal{B}_i} \Phi(x)\sqrt{h}(x)d^3\vec{x}}{\sqrt{\int_{\mathcal{B}_i} \sqrt{h}(x)d^3\vec{x}}}$$

as two vectors with black-white components integrated over the spatial bodies of the person and with $\Phi(x)$ of slow varation over the body, detemine the effective psychic content of the person. Then, on basis of conformal invariance and the absence of dimensionful parameters

$$M_i = a_i||\Phi_i||^2 + a_{ij}\sum_{j\neq i}\langle\Phi_i|\Phi_j\rangle + b_{ij}\sum_{j\neq i}||\Phi_i||||\Phi_j|| + c_{ij}\sum_{j\neq i}||\phi_j||^2$$

is the most general formula possible where the a_{ij}, b_{ij}, c_{ij} are coupling functions depending upon other physico-spiritual entities as well as an average distance between the bodies using the length scales set by the coupling constants of the theory. In a way, those are needed to include the last term which does not depend upon Φ_i given that otherwise $b_{ij} > |a_{ij}| > 0$ given that otherwise M_i can always become negative which is forbidden. This conclusion cannot be valid as M_i would always increase in the presence of other entities which is clearly false given that radiative effects lower the mass in a $U(1)$, and therefore in any theory. The coupling functions vanish in the limit for distances r_{ij} going to infinity and one must conclude from this formula that b_{ij}, c_{ij} go to zero if $||\Phi_j||$ goes to infinity and $\langle\Phi_i|\Phi_j\rangle = 0$. This happens for example when a black spirit meets a giant white one. In general, such formula should depend upon the boundaries of the regions $\mathcal{B}_i$; given that those are assumed to remain constant for all practical purposes, which is more than reasonable, those are absorbed into the coefficients $a_i, a_{ij}, \ldots$. There exist several interesting considerations; experience dictates that sexuality plays an important role in the interactions. Modelling it by means of a binary variable S_i where

$S_i = -1$ if and only if the subject is male and $+1$ if it is female, then a simple expansion gives

$$a_{ij}(r_{ij}, S_i, S_j) = \frac{\widetilde{a}_{ij} + \widehat{a}_{ij} S_i + \dots}{r_{ij}}$$

and likewise so for b_{ij}, c_{ij} must, however be of the form

$$c_{ij}(r_{ij}, S_i, S_j) = \frac{\widehat{c}_{ij} S_i + \dots}{r_{ij}}$$

given that it must contain further information about i. Resorting terms gives

$$M_i = a_i ||\Phi_i||^2 + \sum_{i \neq j} \frac{\widetilde{a}_{ij} \langle \Phi_i | \Phi_j \rangle + \widetilde{b}_{ij} ||\Phi_i|| ||\Phi_j||}{r_{ij}} +$$

$$S_i \sum_{i \neq j} \frac{\widehat{a}_{ij} \langle \Phi_i | \Phi_j \rangle + \widehat{b}_{ij} ||\Phi_i|| ||\Phi_j|| + \widehat{c}_{ij} ||\Phi_j||^2}{r_{ij}}$$

leading to the conclusion that $\widetilde{b}_{ij} < 0$ and $\widetilde{a}_{ij} > |\widetilde{b}_{ij}|$ for reasons mentioned before. Obviously, due to the quadratic nature $\widehat{c}_{ij} > 0$ and $|\widehat{b}_{ij}| < \widehat{c}_{ij}, \widehat{a}_{ij}$ as well as $0 < \widehat{a}_{ij}$ (positive self interaction). It is also most likely due that

$$\widehat{a}_{ij} + \widehat{b}_{ij} + \widehat{c}_{ij} \sim 0$$

meaning that self admiration is mostly sex-symmetric. Also, we assume that the first correction always dominates the second one. This formula then confirms the following observations:

- white male - white female increase their individual spiritual rest energy unless their spiritual strength differs extremely significantly; moreover, the females are more spiritual than males resulting in pieceful strong galant males and nervous females

- white male - black female decrease their spiritual rest energy with more spiritual females as males. The well known phenomenon of talkative small woman and big men falling asleep.

- white male - white male leads in general to rest energy increase.

- white male - black male leads to rest energy decrease on both sides with a lesser effect on the white side given that white males are usually more spiritual than black ones.

- white female - black female, in general decrease of individual rest energy but less so than with males.

- white female - black male, in general decrease of individual rest energy but less so with the female than male. This results often in black men weakening their white jewel with chemical substances.

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- white female - white female, leads to mutual enhancement and more than with males which results in physically active females as opposed to their male counterparts.

- black male - black female, same as white male-female.

I have experienced these observations to be correct and given that they follow more or less from very simple considerations, I deem it appropriate to spend due attention to this unbroken $SU(2)$ model.

References

[1] J. Noldus, Foundations of science with applications in sociology and medicine, Amazon.