What the Geometric Theory of Fields is Good for

Ulrich Bruchholz[1]

6. August 2006

—

First, I'd like to comment quotations, that Manfred Geilhaupt[2] has kindly got. These quotations return the presently predominant opinion characteristic way.

From Richard P. Feynman's book "The Character of Physical Law" (1964):

- Up to now, nobody has succeeded in making electricity and gravity to two different aspects of the same and only the same matter. (back-translated)

Exactly that has been managed with the Geometric theory of fields. This "same matter" is the geometry of the space-time unified in the theory of relativity.

- Our physical theories of today, the laws of physics, consist of lots of different parts that do not match. ... I can only speak of the equalities of the different laws. The context between them evades our comprehension. (back-translated)

That is an apt description of the situation. But it is useless to unify these "parts" with power, because these are based on different *methods*. One can unify only under one method. That turned out well with gravitation and electromagnetism. As well, the quantum phenomena are taken into consideration. The phenomena, mind you, not the theory !

- If you have assembled with your own hand a theory about the same origin between electric and gravitational forces, you need to ask yourself how such a big discrepancy can appear?

[1]Dipl.-Ing. *Ulrich Bruchholz*, http://www.bruchholz-acoustics.de

[2]http://www.fh-niederrhein.de/~physik07/index.html

It is possible that extreme proportions appear. We have to take notice of them. The term "discrepancy" does not belong to natural science. That is purely subjective.
If we compare the *forces* between charges and those between masses at the same distance, we see privileged areas of action of them. So what ? However, the influence from mass, spin, charge, magnetic momentum to metrics amounts to each about 10^{-40} for a radius of 10^{-15}m.
By the way, the try "assembling with the own hand a theory" is condemned to fail from the beginning. A common theory of electromagnetism and gravitation results from itself, if one tackles that properly. It is false too searching for a "same origin". That does not exist. The right question to nature consists in it, what the concrete quantities are at all.

- To the end of this lecture I'd like to point to some properties that the gravity has in common with other laws. First, it is mathematically expressed, the other too. Second, the law is not exact. Einstein must modify it, and it is right not quite nevertheless, because we have to insert the quantum theory. The same is true also for all other laws, they are not exact without exception. A rest of mystery keeps throughout, we must everywhere patch something more in. (back-translated)

Why *has* one *to* insert the quantum theory ? What's the idea of this patchwork ? The different methods do never harmonize. Of course, a complete theory has to take the quantum phenomena into *consideration*. The phenomena are not identical with the theory ! (The Geometric theory of fields takes the quantum phenomena into consideration.)

- It is strange in physics that we even always need mathematics in order to express the basical laws. (back-translated) – (Manfred's personal remark: The laws of physics should be derived from basical principles. See Einstein, who has derived Newton's gravitation law from the principle "one cannot distinguish inert mass from heavy mass".)

Mathematics and physics meet in the geometry :-)

- After all, nobody knows the last cause [of the gravitation laws]. With it, we have up to now no other model of the gravitation theory than the mathematical formula. (back-translated)

Oh well, the geometry is more than a mathematical formula. The geometry is probably the "last cause", as FEYNMAN means it.

- Each of our laws of nature is a purely mathematical statement of rather complex abstruse mathematics. Why ? I have no pale idea. As sorry I am, it seems to be impossible to explain the beauties of the laws of nature without cheat that way, that also non-mathematicians can feel them. (back-translated)

Mathematics is abstruse, as long the contexts are missing. The entire beauty of the laws of nature unfold under the roof of the geometry.

- Again and again, however, it turns out to be that all the great discoveries leave them [concrete models] and take on a lot more abstract forms, briefly, that models are no good for the really great achievements.
  ... However, all tries to grasp them with philosophical principles, or to invent them from imagination, can be forgotten. (back-translated)

With the presently usual model-related methods, it is only consequent that the discoveries more and more leave specific models. The only one principle that proves successful up to now, is the geometry. It has fully proved successful for the gravitation, and experiences its climax with the Geometric theory of fields, in that also the geometry of the electromagnetic fields is settled. As well, the quantum phenomena are not disregarded.
It becomes obvious, that the geometry is more than a model.

According to Boris UNRAU[3]:

- Up to now, the General theory of relativity has withstood all experimental verifications. But it is a classical theory and does not take quantumphysical phenomena into consideration.

Yes, it is. The Geometric theory of fields takes them into consideration, though it is a classical theory *too*. (But it establishes new thinking.)

- The quantum theory again is experimentally excellently confirmed, ...

[3]http://www.einsteins-erben.de

Not throughout. This is a conglomeration of different theories, of them each considers special phenomena.

- It were interesting to hear, at what distance from singularities the General theory of relativity loses reliability.

At 1E-15m. This statement refers to the coördinate system of the observer. Locally, the area around the singularity does not exist !
With it, the Geometric theory of fields gives reliable evidence about singularities. The Geometric theory of fields includes all proportions. It does not need special quantum theories, because it itself takes the quantum phenomena into consideration.

Objection by Manfred (for all physicists):
"Then you should be able to clarify all quantum phenomena, also which have been not explained up to now ???"

My answer to it:
Yes, on principle. Of course, human being, I don't know all. I can offer following:

1. Diverse particle quantities (mass, spin, charge, magnetic momentum), also mutually conditional (!).
2. Qualitative derivation of h from MAXWELL's equations (with diverse predictions).
3. Plausible interpretation of electrical conductivity and tunnel effects (inclusive of super-lightspeeds as noticed by the outer observer).
4. Clarification as it is with causality, and why at all it is possible to use statistical methods.

- I [Boris] also think, that it is the deciding question, where these both powerful theories [theory of relativity and quantum theory] meet.

The theories do not meet at all. The phenomena meet in *one* theory, and that is the Geometric theory of fields.

The following quotation looks me as quintessence.

> Behind it all is surely an idea so simple, so beautiful, that when we grasp it - in a decade, a century, or a millennium - we will all say to each other, how could it have been otherwise? How could we have been so stupid for so long? – *John Archibald Wheeler*[4]

WHEELER is right !

This "simple idea" is a new kind of thinking, that Werner MIKUS[5] has formulated in psychology. But it is relevant for all sciences ! It replaces the time-related thinking by a geometric (four-dimensional, static). With it, one does not need to ask for any cause of the state of the space-time. Any source like distributed mass or distributed charge is not needed. The space-time *IS*.

The statical view as such is not new, and has been suggested by MINKOWSKI for physics. As well, it is ignored due to habits of seeing, that the sources must be necessarily cancelled.[6] Because official physics does not know how to properly deal with pictures respectively analogies. MINKOWSKI's suggestion is only seen as aid to simplify calculations. Conversely, dynamics of the three-dimensional reality results by itself from the geometrical reality.
A new science on contexts, that one can experience, (as suggested by MIKUS) can help to grasp the contexts, and to imagine the mathematical formalism.

[4]quoted by John BAEZ in http://math.ucr.edu/home/baez/constants.html
[5]Entwicklungstherapie **1**, p. 9 and 28, 2001.
[6]Reasons see in http://bruchholz.psf.net