

## Re: The role of exchange particles in force

**Source:** <http://sci.tech-archive.net/Archive/sci.physics/2004-09/9301.html>

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**From:** Y.Porat ([maporat\\_at\\_012.net.il](mailto:maporat_at_012.net.il))

**Date:** 09/25/04

Date: 24 Sep 2004 23:43:52 -0700

Bjoern Feuerbacher <[feuerbac@thphys.uni-heidelberg.de](mailto:feuerbac@thphys.uni-heidelberg.de)> wrote in message  
news:<[cj11e5\\$3sc\\$1@news.urz.uni-heidelberg.de](mailto:cj11e5$3sc$1@news.urz.uni-heidelberg.de)>...

> Y.Porat wrote:

> > Bjoern Feuerbacher <[feuerbac@thphys.uni-heidelberg.de](mailto:feuerbac@thphys.uni-heidelberg.de)> wrote in message  
news:<[ciu5q6\\$04i\\$1@news.urz.uni-heidelberg.de](mailto:ciu5q6$04i$1@news.urz.uni-heidelberg.de)>...

> >

> >> Y.Porat wrote:

> >>>

> >>> Bjoern Feuerbacher <[feuerbac@thphys.uni-heidelberg.de](mailto:feuerbac@thphys.uni-heidelberg.de)> wrote in message  
news:<[cim84e\\$3aj\\$1@news.urz.uni-heidelberg.de](mailto:cim84e$3aj$1@news.urz.uni-heidelberg.de)>...

> >>>>

>

> >> > >>>> Hint: nobody believes that. Try reading the actual explanation

>

> >>>>>> in the FAQ.

>

> >> >

>

> >>> -----

> >>> so is it a straight line ?

> >>

> >> No, it isn't. How often do I have to repeat that?

> >>

> >>

> >>

> >>> and if not what path is it

> >>

> >> It is not just one single path. Ever heard of particle-wave

> >> duality and Feynman's "sum over paths"?

> >

> > -----

> > so is it a curved path??

>

> No. As I said above: It is not just one single path. Ever heard of

> particle-wave duality and Feynman's "sum over paths"?

>

>

> > afaik he describes it by a sort as a polygon right??

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>  
> *You managed to understand about 5% of his idea. Now trying  
> to understand the remaining 95%.*  
>  
> >>>*(that was long ago that i read it and that is what i remember  
> >>>from then)*  
> >>  
> >>*Read it again. Try to understand it this time.*  
> >  
> > *i remember quite clear that there was there 2 possibilities  
> > for attraction or repulsion and it was chosen \*arbitrarily\*  
> > in order to fit the result to reality.*  
>  
> *You misremember. Try again.*  
>  
>  
> *[snip]*  
>  
>  
> >>>*let others deal with that dead end theory.*  
> >>  
> >>*That "dead end" theory has proceeded steadily in the last 60 years  
> >>and greatly improved our understanding of particle physics. And  
> >>agrees with the observations up to 12 significant digits.*  
> >  
> > -----  
> > *see what other members tell you following your being  
> > a 'true beleiver (it is a milder word for sucker)*  
>  
> *What other members? We are the only two in this subthread.*  
>  
>  
> *[snip]*  
>  
>  
>  
> >>>*thats exactly what i doubt  
> >>>can you show in a general way(in short TIA)  
> >>>what is the qm explanation to the above??*  
> >>  
> >>*It is a consequence of photons being spin 1 particles. The  
> >>detailed calculation is on page 125 of the QFT book by  
> >>Peskin&Schroeder.*  
> >>-----  
> >  
> > *sounds like a human invention*  
>  
> *No, not at all. Sounds like experimental evidence.*  
>  
>  
> > *can you detect photons spin 1 just in the right place*

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> > *and time in specific cases in which they are expected to be*

>

> *Huh? What right place and time do you mean?*

how not in a laboratory in a place which is doubtfully belong  
to the alleged case

-----

>

>

> > *how experimental evidence \*in the right place\**

> > *in the right place i mean finding them in case A*

> > *and not indirectly in case B and then attributing them*

> > *to be just because it will be fitted artificially- to the theory*

>

> *I have no clue what you mean with "case A" and "case B" here.*

>

> -----

if say the w boson belongs to the weak force

and you find it in a huge accelerator that

accelerates say electrons and anti ones

or protons and anti protons

that is what i call 'in the doubtful place'

in our place we call it

'to look for the coin under the lamp'

(not really at the place it was lost)

hope you got me.

-----

>

> > > *Not everything has a handy, clear,*

> >

> > *\*you sayed that !!!\**

>

> *I said what? That not everything has a handy, clear, etc. calculation?*

> *Well, obviously I said that, right here.*

>

>

> > -----

> > > *vivid explanation. Some*

> > > *things, you just have to calculate.*

>

> *And apparently you are unable to accept that.*

>

>

> *E.g. can \*you\* give a handy, clear, vivid explanation for the*

> *fact that the possible trajectories in an 1/r potential are*

> *ellipses, parabolas and hyperbolas? Without doing a calculation?*

>

> *Hint: this is Newtonian mechanics. Over 300 years old. If you want*

> *to whine that physicists use math and can't explain their results*

> *in everyday language, you have to start there.*

i never underestimated the value of maths

what i say is that physics thinking should come

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\*before maths while you deal with physics right?

-----  
now what do you mean by those ellipses hyperbolas etc  
do you mean it contradicts my circular path??  
if that is what you say  
it is not !!  
the circular path is only the \*basic movement\*  
if there is interference of \*many operators\*  
it will change into elliptic etc

don't you forget that say the gravitational force  
on stars is not a one force result  
it is a result of \*many force actors\*

-----  
>  
>  
> [snip]  
>  
>  
> >>>>I notice that you keep ignoring that going in a circle is an  
> >>>>accelerated motion.  
> >>>>  
> >>>>-----  
> >>>>  
> >>>>not at all  
> >>  
> >>Yes, it is. Acceleration is \*by definition\* a change in the  
> >>velocity \*vector\*. And when a particle goes round in a circle,  
> >>its velocity \*vector\* indeed changes constantly.  
> >>  
> >>Try reading up "centripetal acceleration".  
>  
> I notice that you choose to ignore that very basic truth. Hint:  
> yet again, this is Newtonian mechanics. Over 300 years old.  
> And, hint: this \*still\* have nothing to do with Newton's laws.  
>  
>  
>  
> >>>>if you understand the idea of the circle  
> >>>>apparently you didn't get it  
> >>>>it is acceleration if any particle must obey  
> >>>>Newton's first law  
> >>  
> >>No, that has nothing to do with Newton's first law. This is  
> >>a simple consequence of the \*definition\* of acceleration.  
>  
> I notice that you choose to ignore that very basic truth.

-----  
you didn't get it that the basic movement of the circle  
is more basic than acceleration  
ie you can add acceleration \*on that movement\*

but \*on\* that basic movement  
seems that it is too difficult for you to  
get out of your locked concepts  
seems that it is still too revolutionary to you.  
though its huge simplicity!!!

-----  
-----  
-----

>  
>  
> >>> *but if the circlon moves in a circle \*naturally\**  
> >>> *ie it is its natural way of movement than it needs nothing*  
> >>> *in order to movwe like that !! got it ??*  
> >>  
> >> *I did not say that it needs something in order to move like that.*  
> >> *I merely pointed out that this is an accelerared motion.*  
> >  
> > -----  
> > *idiot*  
> > *you are unable of grasping something new that is not in your books!!*  
>  
> *No. \*You\* are unable to understand the \*definition\* of "acceleration".*  
>  
> -----

again  
that specific circular movement (not your circular movement  
i am not speaking in 'your language' i am speaking  
in a new language got it??  
is before accelaration  
accelaeration is ading velocity on a certain path  
i am sleaking now about the \*path\* not waht you are\* doing on that path\*  
if yopu cant get it  
than i am waising my time

-----

>  
>  
> >>> *the samwe way that curved space causes matter to move in a curved path*  
> >>> *without any force needed!!*  
> >>  
> >> *One could argue that in that case, indeed a force \*is\* needed.*  
> >> *Ever heard of the geodesic equation?*  
> >  
> > *i am not resposible for the curved space idea*  
>  
> *Well, if you want to use it (as an analogy), you first should*  
> *understand it, don't you think?*

-----

no !!  
the curved space was just a 'catalizator' to my idea  
it is nothing alike  
it was a catalizator in its boldness of daring

changing  
paradigma and the \*need\* of something curved  
(again : the need of something curved!!!! by its nature  
not because it is 'forced' to be curved!! try to get the innovation  
and the difference from the old concepts)  
in order to get  
out of the 'stuck in the mud' situation!!

>  
>  
> > *anyway one of its innovations is*  
> > *that is taken care of:*  
> > *there is no need of force to move that way*  
>  
> *Nice for you. That does not change the fact that there is an*  
> *acceleration.*

-----  
dumbo you are incapable of grasping something different from your  
old education  
there is nothing to do about it!!  
may be a psychologic blockage??  
again  
acceleration comes later in the hierarchy of development  
the basic movement is before acceleration.  
it is not in your old books it is something new!  
one of the criteria of intelligence  
is the ability to be able to get adjusted to new  
possibilities and new situations  
and about the 'psychologic block'  
try to imagine that this idea was not suggested by crackpot Porat  
imagine it was suggested by say Murray Gellmann  
or say Steven Hawking or say Edward Teller  
or say much better a German scientist - Max Planck!!!...  
that might help you to get it better.

or let me try this:  
it is a new tool!  
you can't handle a new tool with your old tools  
anyway the new tool does not abolish all the old tools  
in my opinion it is not too much 'shutting all the old concepts'  
most of the basic paradigma like energy conservation,  
inertia, Newton's second and third laws etc are \*kept\*  
only the first law is \*expanded\* (not abolished!)

-----  
-  
> *Saying that the electron does not "need" acceleration makes no*  
> *sense. Acceleration is not something which one needs or does not*  
> *need - acceleration simply is there or no!*

-----  
i will not insert an insult here

-----  
>  
>  
> > *in order of moving in a closed circle got it ??*  
>  
> *I get that you are totally unable to understand the simple*  
> *concept of centripetal acceleration, and that it is there*  
> *\*automatically\* when something moves in a circle.*  
>  
> *This has \*nothing\* to do with Newton's laws. This follows from*  
> *the \*definition\* of acceleration.*

>  
> -----  
no aditinal insult ....

-----  
> > *it is a postulate*  
>  
> *A postulate which contradicts the \*definition\* of a word? Bad idea.*  
>  
> -----  
no comment for politeness

-----  
> > *it seems that you cant get ridd of your existing concepts*  
>  
> *Well, if you want to use another definition of "acceleration",*  
> *feel free to provide (and justify) it.*  
> -----

afain  
it is more basic than aceleration before acceleration.  
the nature of natural movement is \*before accelerated movement  
(may be that sentense migh thelp?

you have some problems with abstrcut understandings

-----  
>  
>  
> >>>*the only difference is that i do not claim – all matter moves that*  
> >>>*way it is only the Circlon,*  
> >>  
> >>*And how could that be possible? How could space be curved for one*  
> >>*type of particle, but not for the others?*  
> >>-----  
> >  
> > *again you didnt got it*  
> > *my postulate \*is not the curved space postulate\**  
> > *it is different!!!*  
>  
> *\*You\* used curved space as an analogy. So why do you complain when*  
> *I use the same analogy?*

-----  
analogy but not all along the way!!

try to get my different idea:  
space for me does nothing!! and is able to do nothing  
by itself!!  
it is particles that do the special character of movement  
not because of space  
did you got the difference??

-----  
>  
>  
> > *i say that space is nothing and can do nothing*  
> > *\*the trick is in the particles actually only in one particle*  
> > *that only it moves in a curved path*  
> > *the others – in a straight path*  
> > *got it ?? it is not in your books!!*  
>  
> *For the 20th time: how does a circlon \*know\* in which circle*  
> *it has to move?*  
if to make it short  
1 by inertia – ie it keeps the movement it got

2 by collision with other circlons  
very simple imho!

-----  
>  
>  
> >>>*yes if you go down' enough in the hyrarchy of matter*  
> >>>*you get apprently to some 'billiard balls'*  
> >>  
> >>*No. All the available evidence shows clearly that elementary*  
> >>*particles do \*not\* behave like billard balls.*  
> >>  
> >>*If you think they do, please explain the double–slit experiment.*  
> >  
> > -----  
> > *while i say elementry i mean much more elementry than the electron!!!*  
>  
> *Please present evidence that there are particles which are more*  
> *elementary than the electron.*

-----  
thatys another long 'opera' to whcj i dont what to get just now  
(i did it to some extent in other occations.)

-----  
>  
> *And please explain why these more elementary particles shoud behave*  
> *like billard balls, then the electrons, protons etc. not, and then*  
> *macroscopic objects again.*

good question  
the circlons in small radi are composing basic orbitals  
orbitals are composing bigger particles by chain connections)  
now an important remark  
the center of a cirular orbit of the circlon

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\*can move either in a straight line !!! (the center of it)  
or in any other curved path\*  
so gig particles are moving either in a straight line  
or in curved lines  
now once we deal with the \*compositions of those circlons\*  
we come back to \*your physics \*!!!

-----  
>  
>  
> > 2 it is rather a concept that the electron is divisible  
> > that can explain better the double slit experiment...  
>  
> Feel free to provide a \*quantitative\* explanation.  
>  
>  
> > but it is not yet the issue  
> > you just drift me a side unnecessarily  
>  
> The question if elementary particles behave like billiard balls  
> or not leads directly to the double slit experiment.  
again what i mean basic is much more fundamental  
than say an electron!!

-----  
>  
>  
> >>> it moves 'forever' in a constant radius  
> >>  
> >> \*sigh\* In \*which\* constant radius? How is that radius determined?  
> >> I.e. how does it "know" on which circle it has to move?

> > -----  
see above

-----  
> > -----  
> > it is determined by the angle of the last collision  
> > with another one  
>  
> \*sigh\* And if there never was a collision?  
than it will go on with its 'old' motions  
can there be something more simple?

-----  
>  
>  
> > and then \*inertia' is ruling  
>  
> So circlons have inertia? How, exactly, does it "rule" here?

>  
> -----  
it behaves constantly and inertic'(ie as 'before')  
as long as there is no  
outer intervention

what is so difficult to understand??

-----  
> > *it keeps on with that situation*  
> > *is it so difficult to get ??*  
>  
> *Is it so difficult to get my \*real\* question? You keep answering*  
> *\*another\* one, one which I never asked!*  
>  
>  
>  
> >>> *untill ... someone alike itself collides it in a certain angle*  
> >>> *(it is parallel to the first law of Newton but*  
> >>> *the straight line is replaced by a curved line*  
> >>> *got it ?(yes and only for the Circlon!!!)*  
> >>  
> >> *By \*which\* curved line? I.e. how does it "know" on which circle it has*  
> >> *to move?*  
> >  
> > -----  
> > *it is a result of eoilibrioum of forces during the collision*  
>  
> *\*sigh\* And if there never was a collision?*  
see above

-----  
>  
>  
> > *like the paralelogram rule for many forces*  
> > *coming to equilibrium*  
>  
> *The parallelogram rule has little to do with "many forces coming*  
> *to equilibrium".*

-----  
sorry i didnt mean only equilibtium it the sense of  
coming to reat  
i mean using the paralelogram for vectors  
\*to get the resulting vector\* in magnitude and direction!!  
not necessary to the stand still static situatiuon  
but rather in the dymnamic aspect  
now you may asl how do we chose those vector directoons  
ie should be i guess thaken on the \*tagnent to the curved path\*  
at themoment of examination\*

-----  
>  
>  
> > *similar to the stright line movenet*  
> > *but in that case the straight is curved*  
> > *ok let me give you an example from "your concepts":*  
> > *supose a satelite is moving constantly around our globe*  
> > *9withthe circlon it does not need our glovbe remember?)*  
> > *now an astroid is hitting it in a certain angle so...*  
> > *it will change the orbit of that sattelit right??*

>  
> *\*sigh\* How often do I need to tell you that I am \*not\* interested*  
> *in collisions between circlons. What I want to know is: how does*  
> *a circlon move if it never experienced \*any\* collisions in its past?*  
> -----

as i sayed  
it keeps its old movement ie the same radius as before  
and if it was not collided since the 'birth of the universe'??  
i dont know ! (:-) didnt think about it.  
-----

>  
> > *you can calculate it from mases and angles and momentum*  
> > *in my case of even circlons actiner and colliding*  
> > *it is even simpler since...*  
> > *all of them have the same mass*  
>  
> *So when circlons collide, Newton's 2nd law can be applied,*  
yes

>  
> *but*  
> *when as long as they move on their own, it is not applicable?*

yes again because the 2 law deals only with aplied forces  
ist that so??  
no external – force no change!

>  
>  
> > *same velocily same mumentum etc etc*  
>  
> *You \*do\* know that momentum and velocity are \*vectors\*, don't you?*  
> -----

so what ?  
vectors along the tangent of the curved path  
so  
the momentum of (only the circlon) is changing direction!!  
that is an outcome from the discussuin with you!!  
and so for the velocity  
it is changing direction constantly!! without  
need for amn external force  
so we start to be familiar with the starnge circlons *\*new\**  
prooerties!!

—  
>  
> *[snip]*  
>  
>  
>  
>  
> >>>>>*it can be deviated to any size of a radius of movenment*  
> >>>>>*now ..... need i go on or the creative immagination*  
> >>>>>*starts to act...*

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> >>>>> *if such a circlon move \*on a very big radius as its path*  
> >>>>> *it is actually close to moving in a straight line!!*  
> >>>>> *and in such a case we get the \*simple\* direct collision*  
> >>>>> *ie 'front collision' and that is -- repulsion.!!*  
> >>>>> *actually it depends as well on the mutual*  
> >>>>> *distances*  
> >>>>>  
> >>>>> *So if two particles attract or repel each other should depend*  
> >>>>> *on the distance between them?*  
> >>>>>  
> >>>>> -----  
> >>>>>  
> >>>>> *it has to be studied in detail for each case*  
> >>>>> *i cant see a 'swipping ' rule for it*  
> >>>>>  
> >>>>> *Above you said that this depends "on the mutual distances". Do you*  
> >>>>> *want to retract that now?*  
> >>>>>  
> >>>>> -----  
> >>>>> *among other factors it is dependant on distance*  
> >>>>>  
> >>>>> *How, exactly?*  
> >>>>>  
> >>>>>  
> >>>>> *but it is not the only factor*  
> >>>>>  
> >>>>> *let me phrase it shrter:*  
> >>>>>  
> >>>>> *if the stream of two particles is in the same direction*  
> >>>>> *it wil cause attraction*  
> >>>>>  
> >>>>> *What "stream of two particles"???*  
yess  
-----  
> >>>>>  
> >>>>>  
> >>>>> *of the above streams are in concurent directions*  
> >>>>> *it will cause repulsion*  
> >>>>> *now each case has to be studied fir itsef*  
> >>>>>  
> >>>>> *Please do.*  
> >>>>>  
> >>>>>  
> >>>>>  
> >>>>> *in alike chages the streams of the particle smeeet wile they are*  
> >>>>> *on their way \*out\* of the mother particle*  
> >>>>> *in unalike the two parent particles are orientated*  
> >>>>> *in a way that in one of them the circlons are on ther way*  
> >>>>> *out*  
> >>>>> *while in the other one (its own circlons) are in ther way \*in\**  
> >>>>> *and they interact with those of the other one in the same dorection*

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> >>  
> >> *What on earth has the orientation of the particles to do with the*  
> >> *question if the circlons are on the way out or in?*  
> >  
> > *it makes the stream of circlons be*  
> > *cooperative for the two participant particles*  
> > *or concurrent*  
>  
> *What has the orientation of the particles to do with that?*  
>  
> *Do you claim that particles have two sides, and that on one side,*  
> *the circlons go out, and on the other, they go in? Or what???*

-----  
yes exactly  
if you think about a magnet– it makes much more sense  
-----

>  
>  
>  
> >> *And \*why\* are the particles always orientated in that way?*  
> >  
> > *it depends on how that particle is built geometrically*  
> > *now if the particle keeps its geometric shape*  
> > *its stream of circlons will be kept constant as well*  
> > *(unless disturbed by an external intervention.*  
>  
> *That did in no way answer my question here.*  
>  
>  
> [snip]  
>  
>  
> >>> *alternatively (just thought about it following your question)*  
> >>> *the if the acting particle with its circlons out*  
> >>> *meet another particles \*in a location that there are no streaming circlons*  
> >>  
> >> *How could such a location exist if the particles constantly emit*  
> >> *circlons?*  
> >  
> > -----  
> > *see above*  
>  
> *That was not answered above.*  
>  
>  
> [snip]  
>  
>  
> >>> *sound complicated but if you dwell on it for a while–*  
> >>> *you can supply the answers yourself)*  
> >>

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> >> *It is \*your\* model, so why should \*I\* supply the answers?*  
> >  
> > *only if you find it intriguing !*  
> > *and a breakthrough idea!*  
>  
> *I don't. I think it is a total dead end.*  
>  
> *Good luck for finding someone who agrees with you. You will need a*  
> *\*lot\* of luck.*  
>  
>  
>  
> >> *And, BTW, you have not explained why gravitation is always attractive*  
> >> *so far...*  
> >  
> > -----  
> > *ok a good question*  
> > *i will think about it thank you.*  
>  
> *Shouldn't that be one of the first questions one should think about*  
> *if one wants to explain all forces with "circlons"?*  
>  
>  
> > *one thing that comes into my mind is*  
> > *that in gravity the radius of movement of the circlon*  
> > *is very big.*  
>  
> *Why should it be?*

-----  
and 2  
in gravity we deal with big conglomerations of particles  
so  
the stream of circlons is in all dorections  
ie evenly all around its 3d space  
now the outcome of it you can see  
in mgy appendix

-----  
Y.Porat  
-----