

# Fissile vs. Fertile Atoms Renamed Squeezed State vs. Anti-squeezed States, Why Uranium, Thorium Etc are Invisible in Star Spectrometry Data, and a Return on Human Behaviour, Cultural Insecurity Defined as Anti-squeezed Behaviour, Linked to Brain Trauma

Florent Pirot\*

Independent researcher, Valbonne, France  
\*Corresponding author: [florent.piroton@orange.fr](mailto:florent.piroton@orange.fr)

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**Abstract** How can it be that uranium, thorium etc. are key in star dynamism with nuclear fission, when these atoms are barely visible in spectrometry data ? The answer of wavelength deformations of the uranium, thorium... gamma rays in the plasma, making data undecipherable directly, is drawn from previous works of the author. The paper also explains why, however,  $^{235}\text{U}$  appears in “excess” in meteors by developing simple comments on the fission cross-sections and building as well on earlier works of the author and on super-symmetry theory. In both cases, the concept of squeezed states and the associated anti-squeezed states, in application of Heisenberg’s uncertainty relation, happen to be extremely helpful to the demonstration. This eventually helps explaining the dynamism of the collapse before explosion in standard supernovas. More elements on super-symmetry are discussed in conclusion together with a return on the Chapter 1 of From an Einstein Syndrome to the People, where the use of the fine structure constant is justified, self-repressed behaviour (with as key the fear of anal penetration, in men) is anti-squeezed.

**Keywords:** *squeezed state, anti-squeezed state, uranium, spectrometry, thorium, astrophysics, photon deformation, psychoanalysis*

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## 1. Introduction and Brief Executive Summary

Articles [1] and, for more details on black hole eruption dynamism [2] are essential readings for a start.

Since uranium, thorium etc. are extremely heavy, in stars they will be closer to the core than the resulting alpha particles, electrons from the fission processes and other particles so, it is demonstrated, based on [3], that the alpha particles and electrons, for instance, can squeeze the gamma rays and change their wavelength on several orders of magnitude ; in the example, gamma rays from background radioactivity (uranium) enter the visible spectrum. Which is why, in instrumentation, uranium, thorium, transuranics... are in general invisible.

The concepts of squeezed and anti-squeezed states that are introduced to discuss the wavelength deformations on gamma rays are then extended to the entire structure of atoms, to better apprehend the  $^{238}\text{U}$  vs.  $^{235}\text{U}$  relation :  $^{238}\text{U}$  is defined as anti-squeezed state (in a sort of star form, with many asperities),  $^{235}\text{U}$  as squeezed state, spherical, more unstable.

Relativistic neutrons were discussed in the earlier works of the author, they are the particles behind gravitational waves. They are able to fission e.g.  $^{238}\text{U}$ ,  $^{232}\text{Th}$  easily and can even fission atoms usually seen as impossible to fission such as tungsten, lead, gold, iridium (very heavy non-radioactive atoms). The dilatation of the neutron, due to its extreme kinetic energy at impact, onto an atom that is anti-squeezed, allows it to find openings inbetween several asperities of that atom ; one central opening into which most of the energy is yielded will be where the relativistic neutron will “drill” and go through

but the swabs that remained in the side asperities, as they are pulled behind the front of the neutron exiting the nucleus, produce a jolting effect, separating the nucleus in pieces (fission) typically of identical sizes (as explained already, and proven with geochemical data, in [1]). Due to the spherical shape of “squeezed state” heavy atoms such as  $^{235}\text{U}$ , and to the available space *between* atoms, the relativistic neutrons at impact simply make them jolt away whereas slow neutrons have more time to find micro-openings and can then trigger fission due to the natural instability inside (the squeezed state can be assimilated to bringing the atom close to the “criticality threshold”, but below).

This allows to explain the transition between red supergiant and supernova: with the very elevated neutron speeds in a star plasma (during the normal lifetime of a star) there is a selection of  $^{235}\text{U}$ ,  $^{237}\text{Np}$  (whereas  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ... which black holes yield dominantly, fission), their ratio vs.  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ... increases over time, leading to progressive cooldown; then, as  $^{235}\text{U}$ ,  $^{237}\text{Np}$ ... atoms fall down and accumulate in a near-core layer (the massive dense core of red supergiants) and neutron speeds also decrease due to cooldown, this layer becomes at risk of a rapid chain reaction that can trigger a supernova.

## 2. Simple Description of the State of Red Supergiants, in Terms of Isotopic Ratio

The effect of the resistivity of  $^{235}\text{U}$ ,  $^{237}\text{Np}$ ... to very rapid, relativistic neutrons is seen mostly in stars, where it creates an equilibrium with the high output of  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ... vs.  $^{235}\text{U}$ ,  $^{237}\text{Np}$ ... in black hole (as proven in [1] and restated in [2] the extremely slow neutrons inside a black hole determinate the high ratio of  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ... vs.  $^{235}\text{U}$ ,  $^{237}\text{Np}$ ... in mantle materials, in uranium ore in general). Whereas the black hole provides more  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ... than  $^{235}\text{U}$ ,  $^{237}\text{Np}$ ... to the star or to the mantle of a planet, relativistic neutrons create a progressive offset.

The typical reddish color and coldness of red supergiants is explained by a quasi total disappearance of  $^{238}\text{U}$ ,  $^{232}\text{Th}$ ... due to the very elevated neutron speeds in average in the star plasma. There remains however  $^{235}\text{U}$ ,  $^{237}\text{Np}$ ... mostly in oxidation (fission rates are low as neutrons are still rotating too rapidly), as a thick layer nevertheless very cold vs. past states of matter, i.e. a bottleneck around the core black hole. This explains how a supernova is then possible, as the neutrons slow down progressively the bottleneck enters fission but its own weight maintains its solid state, pressure due to the attraction of the black hole ensures absence of vaporization, and it is eventually either blown up totally by the chain reaction going supercritical, or some neutrons from the explosion remain (imperfect explosion) and produce another bottleneck around the black hole, i.e. the neutron star.

## 3. Why Uranium, Thorium... Alpha Emitters, Transuranics in General Are almost Invisible in Star Spectrometry

The explanation relates to the strong energy levels and rapid movements in the plasma flux.

The high temperatures lead to strong disruptions due to compression and distortion of the photons used to evaluate the atomic composition.

### 3.1. Simple Computation

The example given in the first part of [3], a case of gamma ray from background radioactivity compressed by radon in an electron flow has to be taken as framework - the gamma ray in that example is compressed (pinched by the squeezing caused by the electron + alpha particle combination - see Figure 1) and, as it is released, changes wavelength brutally, becoming visible.

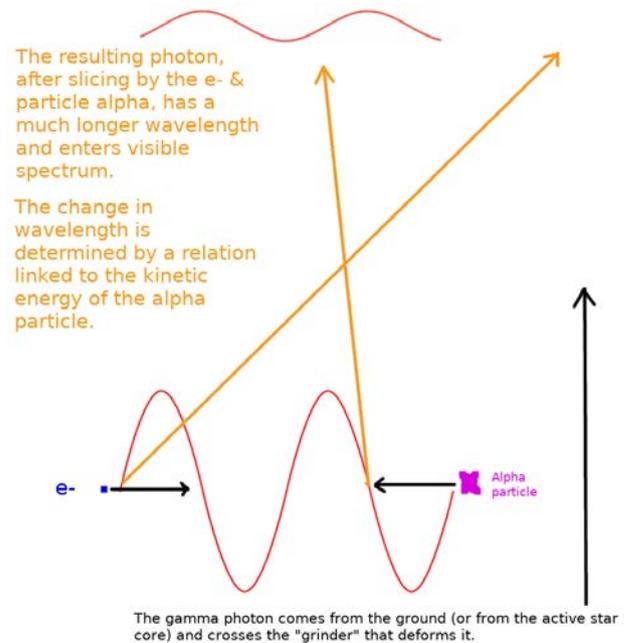


Figure 1.

Due to the many sources of energy involved in the star, working together at varying degrees but oscillating, the multitude of effects and their combination make undecipherable the original rays of emission of uranium, thorium etc. with human on-ground instrumentation or even instrumentation located near the Sun. The strong uranium, thorium... content and its alpha decay combines with the electrons from the fission products and many other sources of energy in the star to change totally the wavelength of the gamma rays of that uranium, thorium... content. The resulting lines in spectrometers do not represent the true content of stars.

### 3.2. Another Way to Come to the Result

By comparing a star to an harmonic oscillator, to solve the Schrödinger equation (in the use of these abstracts concepts), the use of the concept of *squeezed states* by I.A Pedrosa [4] (thanks to [5]) leads to the same intuitive result.

Heisenberg's uncertainty relation involves the existence of anti-squeezed states together with squeezed states. The transformed gamma ray, above, after compression by the electron + alpha particle, enters an anti-squeezed state when it is released. The anti-squeezed state follows immediately the squeezed state.

In a wider perspective, squeezed states are also reached for instance when photons enter black holes - in the black hole they are pressed strongly and change wavelength in the opposite way. After a black hole eruption (see [1] and especially [2] for details on black hole eruptions), they will reach an anti-squeezed state (but as the particle went through mergers with other particles in the black hole, *this* anti-squeezed state is not as a photon anymore).

Hence, through various ways the definition of an Heisenberg uncertainty relation is reached.

## 4. 235U in Excess in Meteorites

### 4.1. The Explanation

The increases in 235U vs. 238U in meteorites [6,7] find an explanation in cross-section trends of 238U and 235U. The issue is the isotopic ratio which is more favorable to 235U than usual; bolides (fireballs) present typically the same 238U/235U ratio found in the raw matter expelled by black holes (likewise they are abundant in 247Cm but there is no "247Cm excess" relative to 250Cm) [1,2].

The neutron cross-section for fission of fissile materials at slow neutron speeds such as 235U and 239Pu fall down at extremely rapid neutron speeds (in the direction of relativistic neutrons). They behave the opposite of 238U, 232Th which cannot fission with slow neutrons but can fission very easily by extremely fast neutrons, there is a symmetry. This explains why in stars in end of life, with the extremely rapid neutron speeds in the hot plasma through all the life of the star, where 238U and 232Th and their parents have been progressively "eaten" (through fission), there is an inner layer, it is made of 235U, 237Np and their parents (they were naturally isolated by the naturally very high speeds of neutrons in the hot star plasma); so it is that inner layer that then receives the decelerating neutrons, because as the 238U / 232Th content of the plasma almost disappeared (through fission) the plasma cools down strongly. The impact of these slowed down neutrons will then trigger a chain reaction in that inner layer of 235U, 237Np and parents, hence the final explosion starting from the inner layer that defines a supernova except for the Type 1As (or less brutal burst in case of a smaller object, hence a nova, of lower yield, of course).

So, meteorites traveling in outer space are likely to meet relativistic neutrons (see [1]), but no thermal neutrons or almost none, since space is mostly made of void ; the 238U, 232Th... content of the meteorites is progressively depleted by impacts of relativistic neutrons, explaining the resulting excesses in 235U found in these meteorites, with variations of course since the flows of relativistic neutrons, coming from supernovae, collisions of neutron stars..., for instance are peculiar events whose frequency is not fixed.

### 4.2. Return of the Squeezed States - The Key Discussion

Likewise, as for the above, the overall logic of the cross-sections for fission (thermal vs. fast neutrons) can be drawn from what is involved in Heisenberg's uncertainty

relation: it is simple to argue that the two main states of very heavy atoms, fissile and fertile, represent the duality that is involved in the Heisenberg uncertainty relation, so 238U, 232Th... can be defined as anti-squeezed states of matter, 235U, 233U... as squeezed states in a simple redefinition of the isotopes where the squeezed state explains the particular elasticity, reactivity (*metastability*) of the 235U, 233U... atoms and the impossibility for fast neutrons to slice them, because they do not stay in contact with these atoms long enough to have a real chance to find an opening.

The squeezed - compressed - state, 235U for instance, is already naturally closer to criticality (this is another way to define metastability, inside the atom the rotations of the central neutron, the only one bound to no proton due to absence of parity, are intense, the surface of the atom is cohesive, well welded, *and that core neutron in rotation explains why very slow neutrons hitting and getting through create very asymmetrical fission products : the slower the entrant neutron, the more the rotational force of the core neutron changes the direction of that neutron as it gets through the middle, so the more asymmetrical the fission products are*) - in a simple, intuitive comparison with a nuclear reactor - in other words the " $K_{eff}$ " of the 235U atom only needs a small supplementation to reach the threshold and "explode" i.e. fission *because it was compressed already*. Relativistic neutrons however will only cause the atom to fly away, due to the vast spaces between atoms and low space between protons, neutrons in that squeezed nucleus.

In an anti-squeezed atom such as 238U, the shape left by the dilatation ("star-like" shape) makes it a much more efficient catcher for relativistic neutrons, whereas slow neutrons will tend to get through it, due to the high space between the protons and neutrons of the anti-squeezed atom and absence of core neutron in rotation (and due to absence of inner potential energy available), without disrupting anything.

The relativistic neutrons, at impact, are themselves dilated, thanks to their high elasticity, for a short period of time. This is why in an anti-squeezed shape such as 238U, thanks to the star-like shape of the atom, the dilated neutron will have lots of opportunities to open its way into it, profiting of the many faults between the protons and neutrons of the atom (the image of the octopus squeezing itself into a narrow tunnel to catch a prey can be intuitively used as comparison but this is not enough - see below).

For a 235U atom, when the very front of the relativistic neutron hits the atom this is already enough to kick it out. Because of the squeezed nature of that atom, it has a very strong consistency, no real space for the neutron to penetrate, and, due to the same elasticity of that neutron, the front of the neutron balances back on itself as the 235U atom is kicked away. Only a slow neutron will have enough time to deliver its entire energy onto the atom and trigger fission.

In a 238U atom, however, thanks to the many spaces between the protons and neutrons of that atom, as it impacts, the relativistic neutron tends to get caught in easily, so that neutron cannot bounce off, the rest of the energy of the relativistic neutron will be transferred into the tip that started to open a way between the particles of

the atom, pushing its way. At low speeds (i.e. what is found in a fast-neutron reactor<sup>1</sup>), there was not enough energy, no neutron dilatation so it cannot push apart the particles, the neutron section remains very low and there will be neutron capture and transformation, in that case, into <sup>239</sup>U (then <sup>239</sup>Pu). It is the very intense dilatation at impact at relativistic speeds that allows the fission, because exterior swabs of the dilated neutron also get stuck in other asperities of the <sup>238</sup>U atom, and as most of the neutron goes through, these exterior swabs act as “flippers” (see Figure 2 - the “pear of anguish” is another comparison that applies). Without the extreme speeds of a relativistic neutron, the dilatation is not sufficient to get the swabs stuck in side asperities of the atom and that process cannot happen.

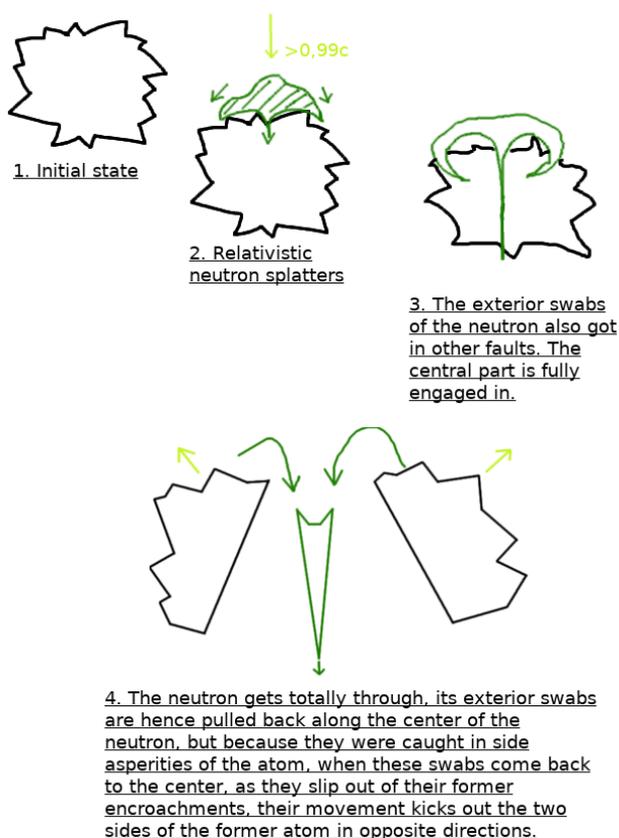


Figure 2.

There is of course as underlined before (in [1]) a quantum tunneling, the process described in Figure 2 takes a few minutes, during which there is oscillation, the vibration of the swabs as they slap back and forth around the neutron once the neutron has crossed through but has not released them yet crushes many light particles emitted by the fission of the atom, the vibration selects most wavelengths except for the intermediate one in visible light, green (the neutron, in Figure 2, was depicted in green, this is independent, but the light from that fission event will be green)<sup>2</sup>.

<sup>1</sup> It is reminded they should of course always be driven by spallation sources, and subcritical.

<sup>2</sup> The drawing for relativistic neutron impact was determined under veil of ignorance, “in spirit” solely by the author, without any political intent hence. It appears ex-post that it could be compared to an Egyptian ankh, to a bird and its wings or to a Christian cross - the symbol of the chrisim (associated with the oil that is actually made from cannabis for real

## 5. Return on Psychoanalysis & Symmetry

There are arguments on super-symmetry with structures of life.

The comparison of a fissile atom and its core neutron in rotation with a planet in rotation around its core black hole is the first obvious one (hence the argument of a Mengerian sponge). Of course the black hole leads to an equilibrium, this does not cancel the fine structure constant.

The skeleton being the pillar, and the rotation the key property of the metastable atom, animals with internal skeleton can be compared simply to atoms not able to undergo fission with giant dipole resonance. This may explain, in a certain metaphysical way, why these animals are much less numerous on Earth than animals with exoskeleton (insects in particular).

It could be that origins of life involve, on basaltic soils made acid by volcanic fumes, Bose-Einstein condensation of light materials released (with the radon of the fumes...), the acids providing as well the primitive elements for DNA (in a very unlikely event, perhaps three times every three hundred millions years on a planet the size of Earth, with its numerous hydrothermal areas) but this relates only to animals of the exoskeleton category, only.

It is possible also to confirm the arguments in From an Einstein Syndrome to the People, chapter 1, where Ludwig von Mises’ analysis, Sigmund Freud’s psychoanalysis and the fine structure constant are brought together; self-repressed people are *anti-squeezed*. Indeed, they are noisy, lack self-confidence & constantly outward-looking to hide absence of actual self-confidence, behave as a block (thinking in black & white, refusing distancing with ideas and rejecting philosophy in general, it’s either yes or no, and when they talk of a *third way*, it can be expected to be a national-socialist one), because there is nothing autonomous inside them, no inner core spinning on its own. They are the potential *nouveaux riches*<sup>3</sup> when they get privileges, in general from a political authority, or when manage to find ways to steal from other peoples, and this does *not* mean transition from U238 to Pu239 except if they escape nevrosis and open their mind to nature, including their own anal pleasure for men, and to freedom.

The Cistercian order, in Christian monks, is an example of squeezed state, it *developed as reply to Benedictines* (anti-squeezed).

Martin Luther also represents the anti-squeezed way to reform, it was brutal, started a war, and eventually called to destruction of synagogues. Unlike John Calvin, who is on the squeezed-state side (like Switzerland as a whole in

effects) still conserves the prolegomenas of a circle, with the “P” and a diagonalized cross that corresponds quite well to the idea of the oscillation that breaks the anti-squeezed atom ; the Celtic cross also approaches the shape of the relativistic neutron hitting the anti-squeezed atom in a certain way... in these (more than in the Christian core depleted of its circle - do also note how the  $\omega$  in the chrisim symbol corresponds well with the end of the quantum tunneling process and beginning of the scission) it appears a good sense that human tradition approached the physics of relativistic neutrons spontaneously.

<sup>3</sup> See IJP 7-4-4 on natural disasters, of course.

fact, even its flag...). Miguel Servet served nothing - he had a chaotic personality, his unitarianism not based on facts but on *mysticism*, a supporter of judicial astrology... anti-squeezed. Evangelical Christians as well are anti-squeezed. Fascism represents a promise of entry into squeezed state (the logo is clear) but under chaplaincy of an anti-squeezed leader who delivers nothing really as State levers cannot touch the core of the human anima.

Anti-squeezed politicians sometimes get assassinated with bullets, that may be seen as the human equivalent of relativistic neutrons onto anti-squeezed atoms. Abraham Lincoln (the Civil War was not about slavery - Lincoln called for the application of the Slave Maroon Act in 1861), JFK who cheated on his wife every day, and later his brother, Jean Jaurès who blamed capitalism for war after a period of antisemitic rethoric at the end of the 1890s, Martin Luther King who had presented the fate of Blacks in America *as equivalent to the barbarism of Nazi Germany* in an April 1961 speech, Salvador Allende, Olof Palme... Jacques Chirac narrowly escaped it (Chirac eventually died just after the author of this article announced the acceptance of his first peer reviewed paper in a biomedical journal, a paper using data in Serbia where Chirac is a responsible for DU).

The accumulation of alpha emitting nanoparticulates in the body reduces capabilities, starting from the brain where it can disrupt the human behaviour. Depuration, with e.g. coffee is obviously the first step to acceptance of anal pleasure, in men as it frees up the brain (see also [9] - also, veganism, spices in general... and chapter on the emergence of uncontrolled behaviours in [10]). Drinking a lot of coffee, one day, long ago (in mid 2014), brought the author of the manuscript to do jogging in a forest, guided with the coffee's energy (in a particular state of *abandonment to body movements, the brain somehow deliberately deactivated in the jogging process*), randomly ending up in an area of that forest where men meeting to have homosexual sex were gathered, before leaving. So, to present the event in another way, the electrical relation between the positivity of alpha emitting nanoparticulates and the electronegativity of coffee is the obvious factor that brought the body of the author full of electronegativity (after coffee drinking) at a distance of a man who had an erect penis obviously particularly full of alpha emitting nanoparticulates (very inflated). This proves the point, it's a spontaneous event that also helped the author reflect on his slight rejection, still, of anal pleasure at these times<sup>4</sup>. No intervention is needed. Why homosexual meeting points happen in general to be in forests ? Because, as monkeys, we are made to live in woods, forests are our natural place for living, they contribute to life in so many ways, produce oxygen... So it is where homosexuality resurfaces most spontaneously, contact with nature brings back to surface what was self-repressed ! The refusal of anal pleasure, in men, is the first cause of entry into anti-squeezed structure, the noise, outward-looking behaviour being to compensate the lack of inside cohesion and of self-confidence, and especially

the sexual frustration that creates supplementary accumulation of alpha-emitting nanoparticulates. Likewise Keynesianism & inflation policies & military imperialism. Muslims, overall, with prayer bottom on top, exhibit anti-squeezed state, strong need to convince others of the virtue of their religious convictions (direct indication of absence of self-confidence in these principles<sup>5</sup>), absolute absence of anal pleasure, homosexuality resurfaces latently in male-only groups and in a prayer style where the anus is elevated, showing where the need is (likewise for the sickle and hammer symbol in Communism, and at a lesser degree the heart & cross symbol in some very conservative Christian groups, Vendée people for instance). Not-coffee cultures may be in themselves pinpointed, refusal of coffee being a clear sign of the fear of defecation<sup>6</sup> so as to self-protect against the pleasure taken in defecating that is a thin reminder of the truth of prostatic pleasure in men; coffee also contributes to reduction of draining of alpha-emitting nanoparticulates in the body, bettering working ability for the brain and improving ability to understand new concepts.... There also is an issue with the lack of forests in most Muslim countries (which clearly resurfaces with green flags, the exposed colour for what is missed). Lastly, it is reminded that the female clitoris actually is an erectile organ whose length competes exactly, outside the body, with the male penis (bending in the opposite direction), it is typically made for the anal penetration and prostatic pleasure of the man.

*(This paper of course does not advocate for analbaptism - force never works beyond pre-emptive self-defense)*

## Supplementary Remarks

A recent preprint on arXiv also leads to the result of brutal production of planets in black hole eruptions [8] that is part of the first demonstration [1].

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<sup>4</sup> In togetherness with beliefs in Keynesianism, as the author ignored especially the antisemitic comments of Keynes.

<sup>5</sup> When your principles are valid you don't need to preach them, they should impose themselves spontaneously.

<sup>6</sup> (Fascists actually frequently attempted the attack of Communists with laxative products).

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