

## Concerning Production of Elements and Plasmoids

by Edward Lewis

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In the April 1996 issue of *Fusion Facts*, H. Fox reports<sup>1</sup> about the recent experimental work of Bockris and Minevski and Mizuno et al. It seems that both Bockris and Minevski<sup>2</sup> and Mizuno et al.<sup>3</sup> have reported the production of heavy elements and new elements in a surface layer on their palladium electrode. Bockris commented, "There is suggestive evidence that new nuclei occur in occupied sites within the palladium and that these sites are 'damage areas' consisting of holes in the palladium."<sup>4</sup> Such a phenomenon of voids near the surface which contain new elements is quite similar to results Matsumoto published almost four and a half years ago. I explained such voids according to my plasmoid ideas.<sup>5</sup> In 1991, Matsumoto produced convincing evidence of massive production of many elements and heavy elements in voids in a palladium electrode, and he developed his own "Nattoh"<sup>6</sup> model. I resolved these CF phenomena as plasmoid phenomena like ball lightning, with which idea Matsumoto agrees.

Yet the phenomena Matsumoto produced has been almost totally ignored. According to much evidence, it seems that atoms and particles are plasmoids— as are galaxies and stars<sup>7,8,9,10</sup>. I have developed a working theory about all phenomena as plasmoid phenomena. An understanding of atoms and particles as plasmoids would enable understanding of many anomalous phenomena, such as cold fusion phenomena and the production of elements and atoms.

Plasmoid research goes back decades. Many people have developed similar phenomena and ideas in different areas such as electrical discharge, fusion research, astrophysics, ball lightning research, and general physical theories. W. Bostick produced things he called "plasmoids" by discharging through electrodes. In an article published in 1957 he speculated about the identity of galaxies and particles as "plasmoids."<sup>11</sup> According to A. Peratt<sup>12</sup>, Bostick coined the term "plasmoid." This early work led to further experimental research on plasmoids for various purposes. From Bostick's early work, and Alfvén's early work with plasmas, a whole school of plasma astrophysical research has developed. E. Lerner authored a good book about the development of astrophysical plasmoid theories.<sup>13</sup> Plasmoid research also led to

some ball lightning research and modeling.

I resolved ball lightning and the tiny objects emitted during the cold fusion process as plasmoid phenomena— developing a general theory about it. The various kinds of plasmoids emitted by the electrolysis and discharge apparatus used by Matsumoto emit tiny plasmoids, which he has photographed leaving several kinds of traces on emulsions.<sup>8</sup> The plasmoids travel through glass, water, and air to get to the emulsions—a behavior like that of ball lightning. Matsumoto has published many pictures of these traces in articles such as the ones referenced here. He accepts the view that he is producing ball lightning-like plasmoids.

I think that atoms are plasmoids that are the sources of that which manifests as electricity or light—atoms may convert to light and/or electricity directly, and light and electricity may convert to atoms. This idea contradicts the basic ideas of conservation of Baryon number, hadrons, nuclear structure, etc. But I think that the evidence for this is simply the documentation of plasmoids emitting atomic particles: such as the one that passed through glass that left the trail and particle traces that Matsumoto calls the

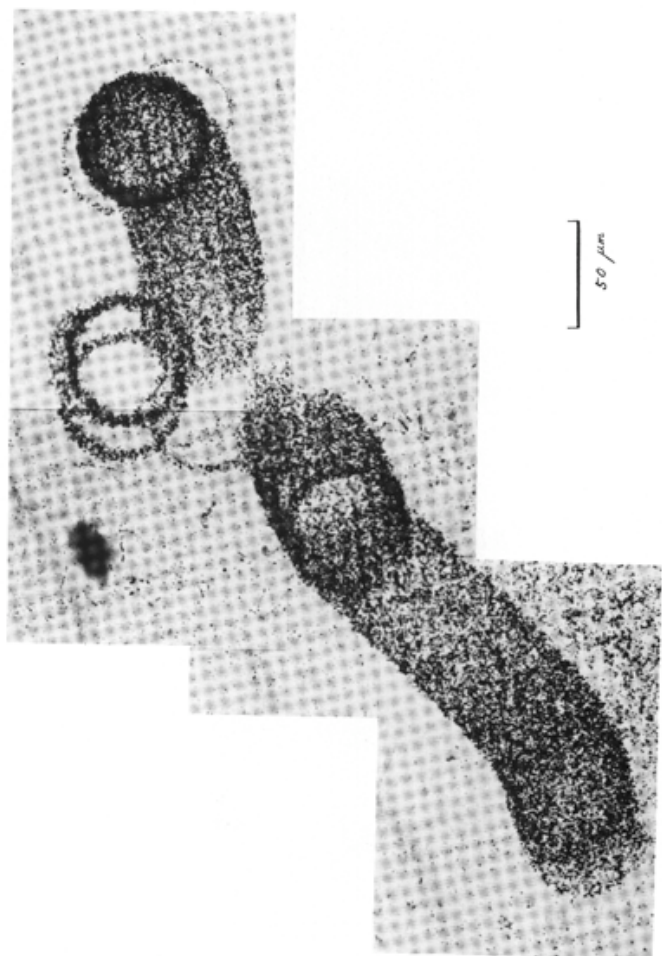


Figure 1: Plasmoid Hopping and Skimming Marks  
(From T. Matsumoto, *Artificial Ball-Lightning -- Photographs of Cold Fusion*, manuscript dated Jan. 17, 1995 presented at the 5th International Conference on Cold Fusion, April 9-13, 1995, Monaco.)

A micrometer size ring plasmoid left these marks on a piece of nuclear emulsion that Matsumoto set near an electrical discharge device. He has produced many other traces like these. The plasmoid was produced by electrical discharge in a solution of ordinary water and potassium carbonate using a cadmium electrode. It traveled through water, glass, and air to reach the emulsions.

Traces like these produced by Matsumoto are very important phenomena. This trace is of phenomena that is intermediate between ball lightning, whirlwinds, and plasmoids, and thus is evidence of an identity of all these phenomena. Such micrometer size plasmoids are obviously associated with the "cold fusion" phenomena, and are apparently a locus of the phenomena.

"Superstar" (Fig. 8)<sup>14</sup> trace; hollow tunnels left by moving plasmoids and other voids in electrodes and other materials; the recent work with "electron droplets" or "electron clumps" that some researchers

such as Marc Kastner at MIT are calling “artificial atoms”; and the anomalous atomic production now being reported all over the world. As K. Shoulders wrote to me, “A new binding method for electrons has been found and the old one using a nucleus is passe.”<sup>15</sup> There is no longer a reason to think in terms of nuclei as the reason electricity seems to clump as atoms.<sup>16</sup> However, I don't know enough experimental evidence to suggest the structure of atoms or other plasmoids, and I don't know whether plasmoids are usually clumps of electrons or of objects larger than electrons.

I explained two different kinds of holes people find in electrodes: round ones due to plasmoid boring, intergrain or grain-shaped voids that may be lined with new elements, and crystals that are due to the clumping or conversion of plasmoid atoms. Others such as Liaw and Silver<sup>17</sup> have photographed such seemingly anomalous micrometer-size round pits, or they have produced SEM pictures of them. Both Silver and Matsumoto (their Fig. 10)<sup>18</sup> have shown photographs or SEM pictures of micrometer size ditches or trails in their electrodes—similar to the trails on the nuclear emulsions that Matsumoto has shown.

K. Shoulders has reported both pits and tunnels, and ditches or grooves<sup>19</sup> in materials produced by the plasmoids he uses. Both the kinds of voids and the ditches are evidence of the conversion of plasmoid atoms to light and/or electricity and/or other kinds of plasmoids in association with the moving plasmoids.

Interestingly, the new element-filled voids in the electrode that Matsumoto used seem to be “near the surface” or opening on the surface, almost entirely within about 20 micrometers of the surface, most within 10 micrometers. But the voids are quite large, sometimes greater than 8 micrometers in width. In the same way, the voids in the Numata et al.<sup>20</sup> electrode seem to be on and near the surface, in a layer of grains at the surface distinct from the two huge crystals that make up the bulk. I couldn't determine the dimensions from the article. The authors did not perform elemental analysis.

Several groups early on such as Numata et al. compared the electrode phenomena to the earth's earthquakes and volcanoes. The emission of ball lightning-like plasmoids by electrodes is similar to the emission of gorgons<sup>21</sup> from the earth. Gorgons are a kind of plasmoid that behaves like atmospheric ball lightning, but which are emitted by the earth from volcanoes or during earthquakes, or at other times. They are sometimes very long-lived and travel at supersonic speeds. They may be

microscopic particles like the ones produced by Matsumoto or huge phenomena more than half a mile long such as the one recently videotaped and shown on *Paranormal Borderlines*.<sup>22</sup> Recently, a video taken about April 1996 of a “white cylinder” that was a half mile long traveling very fast at about 75,000 feet over Colorado was featured on that television show. A similar picture that was taken a little later in another state was also shown. According to reports, the object was luminous and rapidly exhibited a variety of changing colors. It seems to have been layered or somewhat segmented.

Egon Bach has studied this kind of phenomena for many years, and describes many phenomena like this. In Egon Bach's book<sup>23</sup>, there is a series of pictures of a long-term semicircular chain of giant gorgons near a volcanic cloud that show that the plasmoid chain did not rotate. This suggests that circular plasmoid chains do not all rotate. Evidence that solid looking ring plasmoids are not in themselves vortices, though they may be associated with moving air or water, is a broken ring trace shown by Matsumoto in Fig. 7 of Ref. 14. The giant plasmoids shown in Bach's book periodically blinked on and off as do other plasmoids. Since, as Bach stated, some ball lightning phenomena are reported to be cool or cold, various types of plasmoids may have both exothermic and endothermic phases.

Ohmori et al.<sup>24</sup> will soon publish an article about the production of elements and heavy elements by electrolysis of ordinary water and gold electrodes. In many ways, this work reminds me of Matsumoto's prior transmutation article. They presented this paper at a meeting on the production of elements that was held in Texas (see *IE* #9); several other experimental papers reporting the production of elements were also presented. So Matsumoto's observation is now being confirmed. Ohmori et al found deposits at the bottom of their glass vessel in which the majority of the elements were new elements: Hg, Pt, Fe, Si, and F. They also found volcano-like structures on their electrodes which look somewhat like volcanoes on the earth. One of them was 20 micrometers wide and 30 micrometers high, though it is evident that the tiny size and differing composition of the tiny structures may be responsible for the novel shapes. However, unlike Matsumoto's procedure, they did not analyze the inner structure of the electrode. So it is suggested that they should cut them open and perform the analysis.

I had been predicting such volcano structures would be discovered in electrodes and various devices. The “volcanoes” are composed of gold and also the elements

which were left on the bottom of the device. This suggests to me something akin to that which happens in volcanoes on the earth. There is the production of elements and the moving of substance above the surface forming a cone. There is also the emission of moving plasmoids that may leave new elements as residues in various places such as at the bottom of the cells and the outspewing of substance—similar to the way that lava is thrown up and falls back down on the earth as various kinds of igneous rocks such as pumice or basaltic rocks. I suggest that the various kinds of rocks and minerals that people find in igneous rock formations may be mimicked within various laboratory devices being devised today. I suggest looking for more porous types of “rocks” on the bottom of the devices or dispersed from eruption points. Look for denser deposits or lava flows on the surface of the material near the point of outpouring. Look for crystals of various minerals and elements, perhaps under the volcanolike structures—similar to the zones of crystals under volcanoes or in igneous pipes.

The plasmoid emission of various devices may leave residues unlike that normally thought to be produced in volcanoes, but more like gorgon and ball lightning residues. The residues that were found at the bottom of the volcanoes were porous-like pumice.

It may be that at least some of the crystalline voids found by Matsumoto and shown in his 1991 article led to surface structures similar to volcanoes. The crystalline voids may therefore be similar to those found in igneous pipes and formations.

This element production work and various types of devices producing excess energy or excess current confirms my original ideas about atoms and atomic transformations. I have long thought that atoms are plasmoids. Like plasmoids, they can convert to light and electricity directly, hence my explanation for the CF phenomena, ball lightning, and other anomalies. Atoms may transform to other kinds of atoms, to larger or smaller plasmoids that may move, or directly to electricity and light. If the Correa device works, then it may be that the recent Correa patents may come closest to showing that the lattice of electrodes actually converts to other plasmoids and electrical output—the surges they report. People may find additional electrical output associated with various devices associated with atomic transformations or excess radiation in the form of plasmoid emission such as electrons or electrical current.

I have described trying to apply MHD theory as developed by these physicists

and astrophysicists to the plasmoid phenomena in superconductors called "superconducting vortices."<sup>25</sup> I suspect that the superconducting aspects of plasmoids, including the ability of even large ones such as ball lightning to travel through insulators such as glass or ceramics without much change to the insulators, is related to the clumping of atoms and other plasmoids. Very small plasmoids such as electrons may clump to form atoms, and atoms may in the same way clump to form larger atoms or larger plasmoids.

Evidence for the production of elements in ring shaped, micrometer sized plasmoid phenomena has been recently reported by Matsumoto<sup>26</sup>. This is evidence that the new elements that people may find in various devices may be due to moving plasmoids. Recently, Matsumoto has shown what may be the best picture of a ball lightning, or at least the best picture of micrometer sized ball lightning, unless it actually is only an effect or residue of a ball lightning. It is ring shaped, as many ball lightnings are reported to be, about 9.5 micrometers in diameter, and it is opaque and not apparently luminescent, as some ball lightnings also are reported to be. He photographed it on an iron wire electrode by using a micro-telescope and camera equipment. Though ball lightning is usually luminous, Ken Shoulders reported what he calls "black EV" that don't give off visible light, and people have reported seeing black globes<sup>27</sup> that don't radiate light. There are also reports and pictures of ball lightning phenomena blinking on and off, that is, they switch from being luminous to being not luminous.

During electrolysis or electrical discharge or other stress, as during volcanic activity, much substance may convert to light and/or electricity, and may convert to plasmoids of various types and sizes.

Residues may be found like pumice or lava flows. Plasmoids of various sizes may be emitted and become electrical discharges or light or cause changes far from the site of origin. Voids, cones, or craters may generally be left at the site of the emission of plasmoids. Neutrons, electrons, and other types of plasmoids may be emitted, and new elements and substances may be produced and left as residues.

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**• Segner-Marinov, from page 68....**

introduced. The pressure in water at the point x,y, i.e., r,h, will be

$$p = \mu gh + (1/2)\mu\Omega^2 r^2, \quad (1)$$

where  $\mu$  (= 1 g/cm<sup>3</sup>) is the density of water and  $g$  (= 981 cm/sec<sup>2</sup>) is the gravitational acceleration.

The first term in (1) is due to the hydrostatic pressure and the second term is due to the kinetic pressure produced by the inertial centrifugal forces. At all points of the surface the pressure is constant and as for  $x=y=0$  we have  $P_{surf} = \mu gh$  and for  $x = R, y=H$  we have  $P_{surf}=(1/2)\mu\Omega^2 R^2$ . we obtain

$$H = (\Omega^2/2g)R^2 \quad (2)$$

Thus for the constant of the surface parabola  $y=kx^2$  we obtain  $k=\Omega^2/2g$ . At the left part of the diagram are drawn the parabolas for different constant pressures.

The velocity with which water will squirt out from the nozzles will be (Torricelli)

$$v^2 = 2p_{h=H}, r=R/\mu = 2gH + \Omega^2 R^2, \quad (3)$$

and the driving torque, at the simplifying assumption that the volume of water squirting out in 1 sec is 1 cm<sup>3</sup>, or that  $\mu$  is the mass squirting out in a unit of time, will be

$$M_{dr} = R_{mv} = \mu(2gH + \Omega^2 R^2)^{1/2} R \quad (4)$$

The braking torque,  $M_{br}$ , will be generated by the Coriolis forces acting on the water which drops from the axial tube with velocity  $v = 0$ , but at the periphery of the turbine obtains a velocity  $v = \Omega R$ .

As the Coriolis acceleration radial velocity  $v$  over a disk rotating with an angular velocity  $\Omega$  is  $u = 2\Omega xv$ , the torque executed by a mass  $\mu$  of water moving from the center of the disk to its periphery with a velocity  $v = R$  in a second will be

$$M_{br} = \int_0^R r \mu 2\Omega v (dr/R) = 2\mu\Omega \int_0^R r dr = \mu\Omega R^2 \quad (5)$$

Consequently, the net driving torque will be

$$M_{dr-net} = M_{dr} - M_{br} = \mu(gH)^{1/2} R (2 - \sqrt{2}) \quad (6)$$

The free power which the Segner-Marinov turbine will deliver will be

$$P_{seg-mar} = M_{dr-net}\Omega = \mu(gH)(2\sqrt{2} - 2) \quad (7)$$

However, we have to take into account that the velocity of the squirting out water given by formula (3) is with respect to the turbine's cylindrical surface and since the laboratory velocity of the latter is  $\Omega R$ , the squirting out water will have a laboratory velocity

$$v_{lab} = v - \Omega R = (gH)^{1/2} (2 - \sqrt{2}). \quad (8)$$

The power of this water can be used to rotate another turbine whose blades will serve as external border of the cylindrical recipient in Fig. 3. This second turbine will be set in rotation opposite to the rotation of the Segner-Marinov turbine. Assuming that the second one is a Pelton turbine which transforms the whole power of the squirting out water into kinetic energy, reducing the water's velocity to zero, we shall have for the power delivered by the Pelton turbine

$$P_{pel} = (1/2)\mu v_{lab}^2 = \mu gH (3 - 2\sqrt{2}) \quad (9)$$

Thus the whole free power which will be produced will be, from equations (7) and (9),

$$P_{net} = P_{seg-mar} + P_{pelt} = \mu gH, \quad (10)$$

**Experiment.....Continued back on page 47**

**Do it—please!**  
**Write a letter about cold fusion**  
**and new energy to your**  
**Congressman, Senator,**  
**President, favorite Candidate, or**  
**Prime Minister.**  
**THEN—Send it to IE—**  
**We may very well print it!**