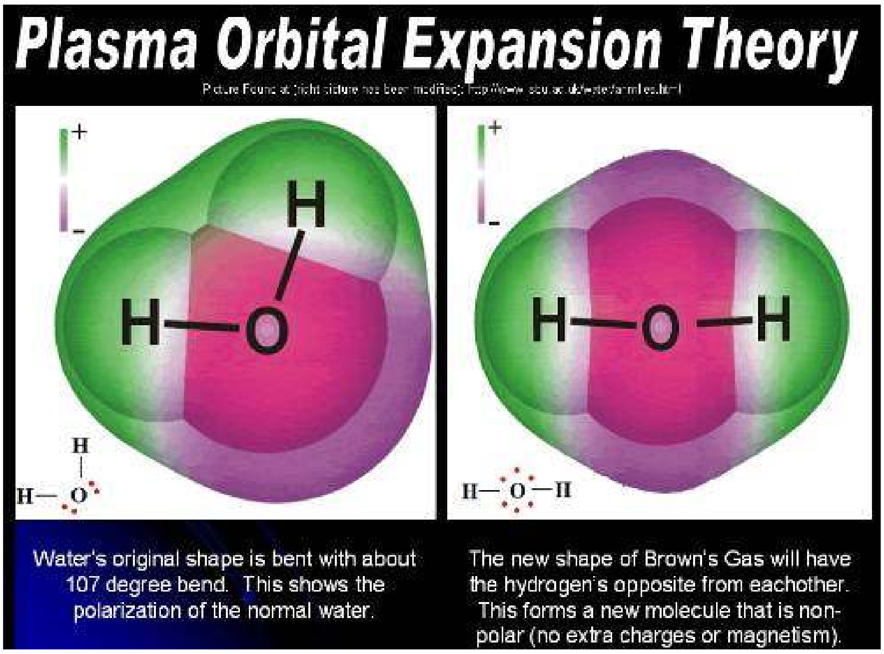
A Model that leads to **new knowledge**

Third Module: Watergas

T/Q **E** **D** **R**	**Theorem-Question** **Explanation** **Determination** **Repetition M2**	**Dynamics and a System!** Thanks to Frank Collaris and the diligent team from Evomotion.

Text Module = in black, version of present Physics = in red

Because M2 is too difficult for the average reader, we will repeat here some of the things that were argued in there: they help us understand the unexpected dynamics of matter.		
T	$H_2O \rightarrow$ **HHO** $\neq$ **hydrogen + oxygen** $\neq$ **Oxy-hydrogen**	Water can be converted into a gas, **watergas** or **HHO**. That is done by **just not splitting the water**. The water is **cracked**, the molecule is not disassembled. The gas is not to be confused with steam or vapor, when cooled it retains its properties. The water becomes gas by an increase of the volume by a factor ~ x 1860. In this state, it thus is significantly lighter than air. At the end of this Module we will see that watergas can adopt a form which is heavier than air. Making watergas happens during a limited electrolysis in a specially built cell with a direct current of 2 volts and a plate distance of 3 mm. It is advisable to always use **demineralized water** because otherwise very strange effects occur. The minerals in ordinary water can substantially affect the behavior of watergas.
E	There are already some assumptions about the looks of the watergasmolecule. This drawing seems very credible for the light form of the watergas. It is an idea of **Chris Eckman**. The other variant is explained at the end of this Module.	Water's original shape is bent with about 107 degree bend. This shows the polarization of the normal water. The new shape of Brown's Gas will have the hydrogen's opposite from eachother. This forms a new molecule that is non-polar (no extra charges or magnetism).
E	How to make watergas?	The incomplete electrolysis takes place in the presence of a limited amount of electrolyte (conductivity of the mixture ~ 50 mS or millisiemens). It is advisable to make use of pulse-width modulation (PWM). Power reduction can be done and also prevent the cell going crazy so the water begins to boil. A block rate of 200 Hz gives good results.

E	The cells consist of parallel plates of **stainless steel** embedded in **HDPE** (High Density Polyethylene). In the adjacent configuration 13 plates are arranged in such a way that a voltage on the external plates of 24 volts results in a voltage of 2 volts between each pair of plates. An **electrolyte** allows conduction for the plates are not mutually connected. In order to avoid a leakage of current, the plates are pressed in the milled grooves under a pressure of 4 tons. The water is kept in motion along the plates between the cell and the storage tank with a pump.	 The resulting gas can only escape upwardly, where it is captured in a collector together with the circulating water. Then the water with the electrolyte and the gas are separated in the storage tank. The gas is further purified in bubblers with (generally) demineralized water.
E	Conditioning a cell.	A newly created cell is made capacitive. As a result, its power consumption is significantly less. The so-called conditioning happens during a continuous period of 24 hours with a block frequency of 10 Hz and a low level of electrolyte. This way a layer of Cr_2O_3 is formed on the stainless steel plate. To have a very low consumption resonance should improve the situation but we have not yet mastered this ourselves. It is also best to ensure that the cell is not becoming too hot, under 40 °C, in order to avoid the splitting of the water molecule.
E	Watergas goes wider!	In the experiment with Black Light in M2 only potassium and strontium can be used. For the creation of watergas LiOH, NaOH and/or KOH can be used as electrolyte. The use of NaCl and KCl is not recommended because of the release of chlorine and because of another effect that we discuss later (the watergas becomes explosive).
E	Pure water gas is **implosive**.	When we lead the produced watergas in a bowl of soapy water bubbles emerge. When we light these bubbles with a normal lighter then these bubbles implode with a huge bang: the watergas is converted back into water. Watergas ignites at a temperature of 117 °C. The front of the

		implosion has a speed of 2487 m/s (7.5 mach), which is reversibly comparable to the front of the explosion of a grenade.
E	A cell with: * downwards a pump driven circulation to the cell (input). * on top of the tank the separation and the transit to a pressure vessel with pressure control top (output). Upper tube drainage of the watergas towards the two bubblers in the back. * on the left the torch on top of a bowl of soapy water. * in the back the stock demineralized water with corresponding electrolyte.	
E	Watergas **burns**!	When we create a sufficient flow rate of watergas to operate a torch, 6 to 7 liters per minute, then we can ignite the gas. The flame has special properties. When we don't direct the flame towards something it is about 130 °C, towards lead it reaches 600 °C, towards iron 1400 °C and towards tungsten 6000 °C, and this while the mouth of the torch does not warm above one hundred degrees. The burning watergas doesn't warm water and is adaptive, it adapts to the environment. When for example we burn paper with the flame and the burner is hold in the combustion gases we see that the flame draws the gases inside (implosive flame). Be careful with paper with a coating, it burns very fierce.
Q	Why stubbornly refuse to see that watergas is different from a mixture of hydrogen and oxygen?	Watergas, and thus not hydrogen + oxygen, has the very peculiar properties we described above. These adaptive properties cannot be understood with the current physical beliefs. This situation is very annoying when half the world now has been experimenting with this gas. Physics continues to ignore the thing with the now known attitude: we cannot describe it mathematically so it does not exist! There are no adequate wave functions for these properties.

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Q	What's so special about watergas that Physics refuses to see it?	The properties that are exhibited by watergas **show a resemblance with the external and internal reaction** from M2 which we will repeat hereafter. The behavior of watergas changes according to the substances with which it comes into contact. Some of the external reactions are so exothermic that a surplus of energy is created. This is impossible according to the law of conservation of energy. The classical concept does not allow that this extra energy is extracted from water.
E	We can, for example, make an energy profit with the boiler shown beside. The three blue pipes bring the watergas to squirts that focus the watergas on a tungsten tube. The circulating water therein is heated so quickly that we need to ensure sufficient circulation to prevent that the tube melts. Despite the amateurish nature of this arrangement, a return of x3 was obtained. Be careful that the squirts are well directed: do not shoot directly and at a good angle on the tube otherwise the tube will melt.	 Three times more calorific heat than electrical energy needed to create the watergas and to rotate the circulation pump.
R	**Keys** represented as Kex and x = 1, 2, 3, …	In M2 we have seen that, provided the use of a number of keys (Kex) is present which trigger the operating mechanism, whereby hydrogen atoms can be made electrically instable. So as well the **external** as the **internal reactions** will be made possible and energy can be extracted from charges.
R	The **external reaction** from M2 includes the following steps.	Mono atomic (**Ke1**) hydrogen is brought in contact with potassium (**Ke2**) and tungsten (**Ke3**)with following consequences: * The electron can release energy by emitting a special kind of photons: magneto photons. These photons are faster than normal light: their speed is $\sqrt{2}$ times the speed of light c. * For the electric equilibrium of the atom the up-quarks of the core (proton) also release part of their positive charge. The energy of this charge is transformed into kinetic energy with the formation of plasma as a consequence:

		$u(+2/3^{e}\,e^{-}) \searrow u(+2/3^{e}\,e^{-}) \searrow d(-1/3^{e}\,e^{-})$ and e^{-} is the elementary charge, the charge of the down-quark (d) remains stable. The proton releases charge by transforming it into movement: part of the drive of the course of space of the charge transforms into kinetic energy.
R	The **internal reaction** from M2 includes the following steps.	Mono atomic (**Ke1**) hydrogen is brought in contact with potassium (**Ke2**) and/or with elements on the right of iron Fe (**Ke4**) the Periodic Table. A proton exists of two up-quarks (u) and one down-quark (d). The electron of the unstable hydrogen atom gives a small part of its negative charge on to the down-quark of the concerned proton. Thus not only the positive charge of the proton decreases but also the stronger negative charge of the down quark seriously reduces the Coulomb repulsion which means that the repulsion for the other cores reduces: $u(+2/3^{e}\,e^{-})u(+2/3^{e}\,e^{-})d(-1/3^{e}\,e^{-})\nearrow$ and e^{-} is the elementary charge. The unstable hydrogen atom brings elements, on the right of Iron (Fe) in the Table, in a state which makes fusion possible (**Ke4**). This reaction makes it possible that fusion processes occur in cavities or under high-pressure and/or at temperatures below 4000°C (**Ke5**&**6**).
The two reactions described above are very extreme. They show that in some circumstances matter is able to react differently than we are used of her. With watergas milder reactions occur than the two above. To compensate for this generosity is, in this capacity, **matter becomes very dynamic**.		
Q	Why does watergas react milder than the Black Light?	With the watergas we do not have the mono atomic state of hydrogen but the **semi-mono atomic state**. This has the effect that the internal and external reaction will not fully occur: only a tiny proportion of the charge is converted in energy. An additional factor is that the oxygen also obtained semi-mono-atomic properties so that the electrical imbalance of the entire molecule can start other processes.
E		The intensity of the reactions are also determined by the electrolyte that is used. Thus, watergas that was made with NaOH reacts less strongly with tungsten than watergas made with KOH. Also the implosive power of watergas(Na) is less strong. The watergas(Na) even becomes explosive in cell constructions with a collector made of polyethylene (PE). Other electrolytes can give quite different results. Experimentally, there is still a lot of work to do.
Q	How much milder is watergas?	Burning watergas(K) aimed at tungsten becomes 6000 °C hot. This is only a fraction of the temperature of the plasma described in M2. This means that the loss of charge of the atoms will be many thousands of times less than the loss calculated in M2 of 0.00535%. So an electron or a proton by means of reactions with watergas loses surely not 0.00001% of its charge.
E	Before watergas becomes water again it is quite stable.	The semi-mono atomic state in the watergas has the advantage that it **exists much longer** than some seconds. Apparently there is in that state no loss of charge. This only occurs when the watergas reacts with the environment.

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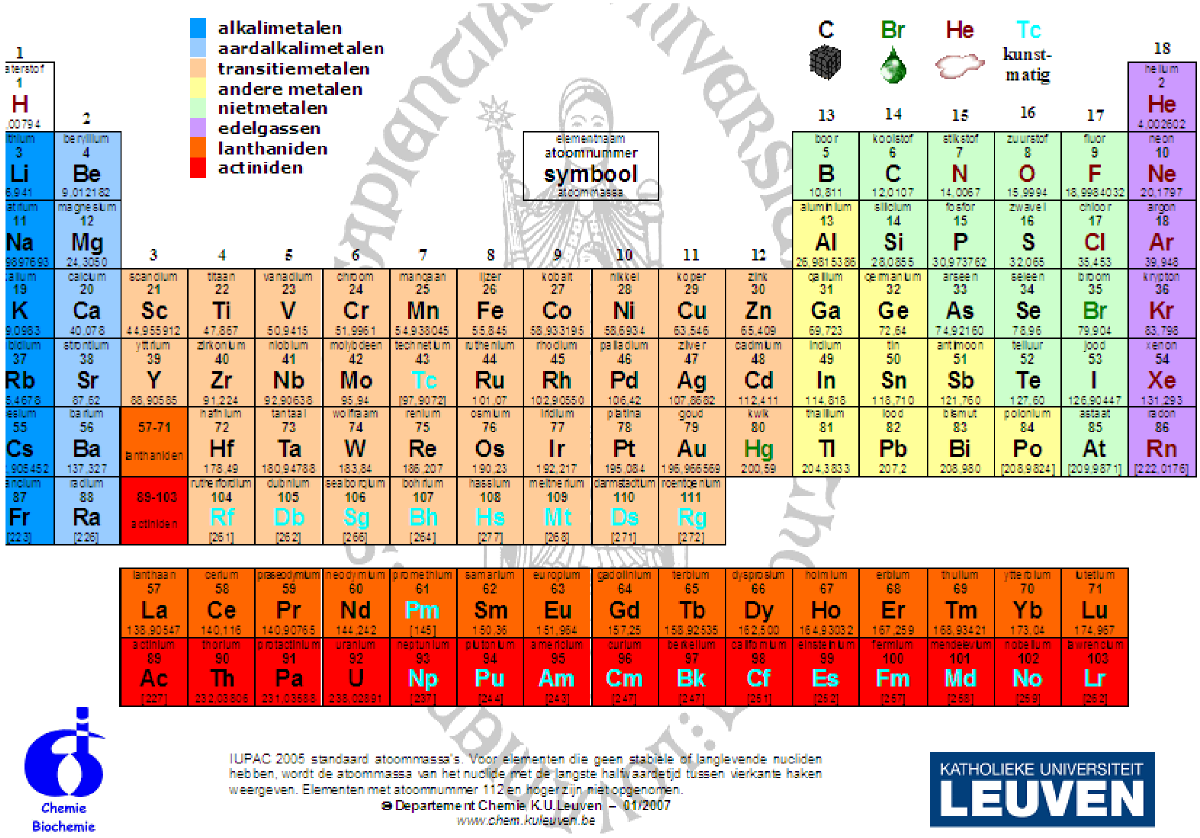
E	When watergas becomes water again it loses charge!	In the Black Light reaction one has found that the resulting hydrogen atoms (hydrino's) remain for at least a few days in that condition. The charge that is lost will only slowly be recovered. Since the loss by means of the watergasreaction is much smaller, the recharging the lost part of the charge will happen very fast. It does this using the environment magnetism. The charge loss due to the watergasreaction is minimal so only in a special equipped laboratory it will be impossible to measure it.
T	First glimpse of **a system**.	So how watergas reacts entirely depends on the elements it is in contact with during the creation process and also on the elements it is in contact with afterwards. The kind of watergas is determined by the place of those elements in the Periodic Table. In connection with this influence we already said the following:
R	What's so special at the place in the Periodic Table?	**Left of iron** (**Fe**) the transition metals predominantly show a **electrical effect**, i.e. they stimulate the deliverance of energy of the course of space **e'** from the electron. **Right of Fe** the transition metals and the non metals predominantly show a **magnetic effect**, i.e. under certain circumstances they can stimulate the release of energy from the courses of space **x'**, **y'**, **z'** which reduces the mass of the core (for example during fusion processes).

The Periodic Table of elements



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D	There is a shift to the right.	The semi-mono atomic state of oxygen in the watergas also has an influence on the reaction. All metals on the right of iron (Fe) will also heat up with the burning watergas to their melting point, and sometimes even above. All metals exhibit the **exothermic reaction** with burning watergas. This is the less powerful execution of the external reaction as we saw it from the Black Light experiment in M2. Evidence for this is the fact that the reaction of watergas (K) on tungsten doesn't give a strong UV radiation. This also shows that only a very small part of the charge is affected. The magneto photons that are released often are not strong enough to create noticeable light in their collision with other atoms. The minimal loss of charge of the electrons is compensated by a loss of charge of the core. This releases its charge as non-orientated erratic kinetic energy, hence the heat demonstrated by this reaction. The kinetic energy is erratic because it comes from the two up quarks. In fact we deal with a reaction from the core that only releases heat. Because it isn't a reaction of the electrons this is not a chemical reaction. That's the reason why we don't comprehend the behavior of watergas with the present beliefs. That the warming caused is no chemical warming becomes clear when a steel bolt is made red-hot with burning watergas. The glow disappears very quickly when the torch is no longer focused on the bolt. The iron cores didn't accumulate the kinetic energy. Their reaction is caused by the drive of the hydrogen cores. When this drive expires the iron cores quickly stop to move fast. There is heat without much warmth.
D	Additional consequence	The non-metallic top right of the Periodic Table makes the watergas explosive. Hydrocarbons (HC) that are more or less volatile (rubber and less dense HC) whereby mixing is possible, oxygen and nitrogen make the watergas highly explosive. This occurs due to the internal reaction. Because of the minimal switch of charge from the electrons to the down quark of the core it shows an orientated kinetic energy. The movement is orientated because she comes only from the down quark. This makes the gas to explode. So only an explosive ability emerges whereby the generation of heat is not present like with the external reaction. That is the reason why these explosions take place at relatively low temperature (~ 400 °C). This **endothermic reaction** is the less powerful execution of the internal reaction. She can be used to raise mechanical forces is less useful to create warmth.
D	Types of water gas, reversible conversion from one type into another by means of the non-metals and other factors.	The original implosive and the final explosive watergas are quite different. The implosive watergas is lighter than air (water volume x 1860) and penetrates many substances. We have determined this with a paper bag. For the implosive watergas it is as if the bag is not there. We even made observations with watergas(K) that it penetrates a stainless steel plate of 1.5 mm.

D		Often the implosive watergas is confused with hydrogen. That the two differ markedly appears from the fact that hydrogen cannot migrate through other substances so easily. Also this type of watergas ignites at a much lower temperature, 117 ° C, then hydrogen that ignites at 565 ° C. When the implosive watergas converts into the explosive form it becomes heavier than air. We have filled a 3 layered plastic bag with watergas. After a few seconds the implosive watergas partially escapes and the other part is converted. When we ignite the remaining watergas a violent explosion follows. When we put sugar in the second last bubbler the gas becomes explosive. If we make soap bubbles with this watergas it shall convert into the implosive type because of the contact with the potassium or sodium from the soap. From the intensity of the implosion that follows can be deduced that the conversion means no loss of energy. Also when putting watergas under pressure it converts from the implosive type into the explosive type. This seemingly happens starting from a pressure of 1.5 bar. When non-metals are not mixed with the watergas then the transition from implosive to explosive watergas happens slowly. This is the case when watergas for instance is put in a PET bottle. When the watergas is **in the transition phase** it is **inert**, it does not ignite. This phenomenon can be very dangerous. One can think that the watergas is gone while it is just converting. The conversion from implosive to explosive is slow when the contact with the non-metallic less intimate. The contact time determines the transition time.
D	This is evidence for the existence of the external and internal reaction.	The conversion of one form of watergas into the other is prove for the existence of both reactions. As long as the hydrogen is semi-mono atomic (**Sl1**) it stays sensible at **Ke3**, the external reaction becomes the exothermic reaction, or **Ke4**, the internal reaction becomes the endothermic reaction.
E	**Flashback**	This recoil mechanism is feared amongst users of watergas. It is a recoil which oddly enough takes place in the barrel with the largest space. The flashback can be stopped by a bubbler.
D		Watergas(Na) has to do with pressure flashbacks while watergas(K) also is e.m.-pulse sensitive. To prevent a flashback we use: an arrestor for the pressure recoil, a ferrite core for the e.m.-recoil.

Many reactions are still to be investigated. Some of the reactions that have to do with the effect of watergas on fusion reactions will be discussed in M4.