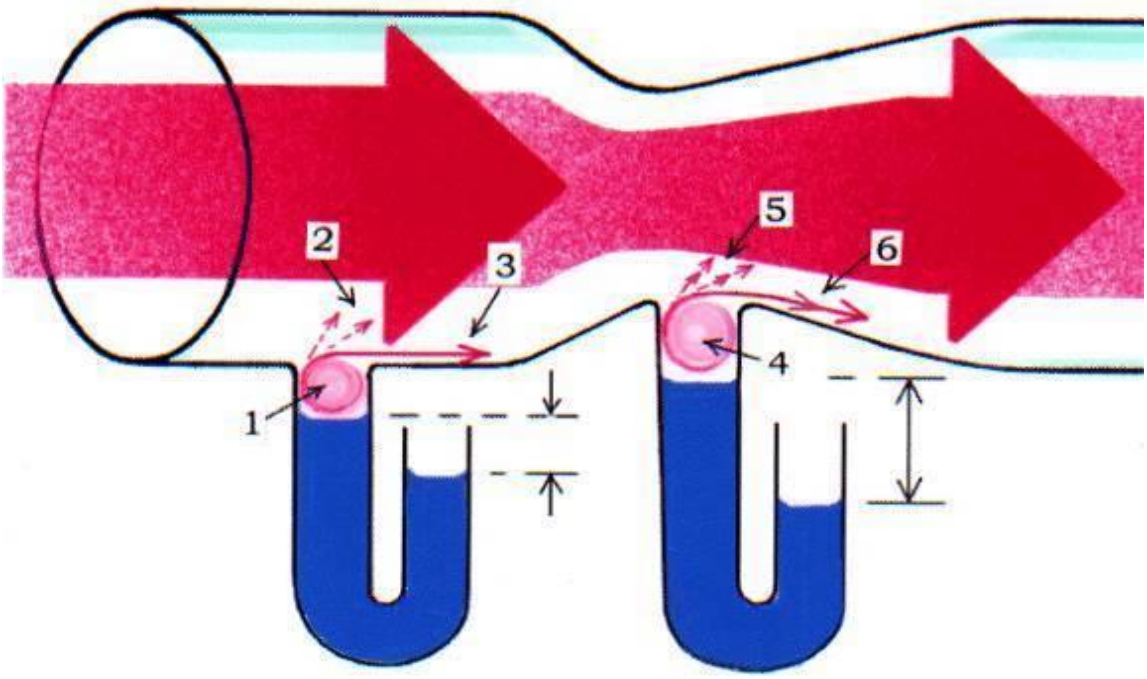
BERNOULLI'S PRINCIPLE DISPUTATION



1. **Turbulence cause by frictional force is produced.** *(Just like blowing a bottle)*
2. **The centrifugal force attempts to throw fluid's molecules out of their orbits.**
3. **The fluid's molecules are drawn from the U-shaped tube by frictional force.**
4. **When the fluid moves faster, the turbulence is stronger.**
5. **The centrifugal force is also stronger.**
6. **More of the fluid's molecules are drawn from the U-shaped tube.**

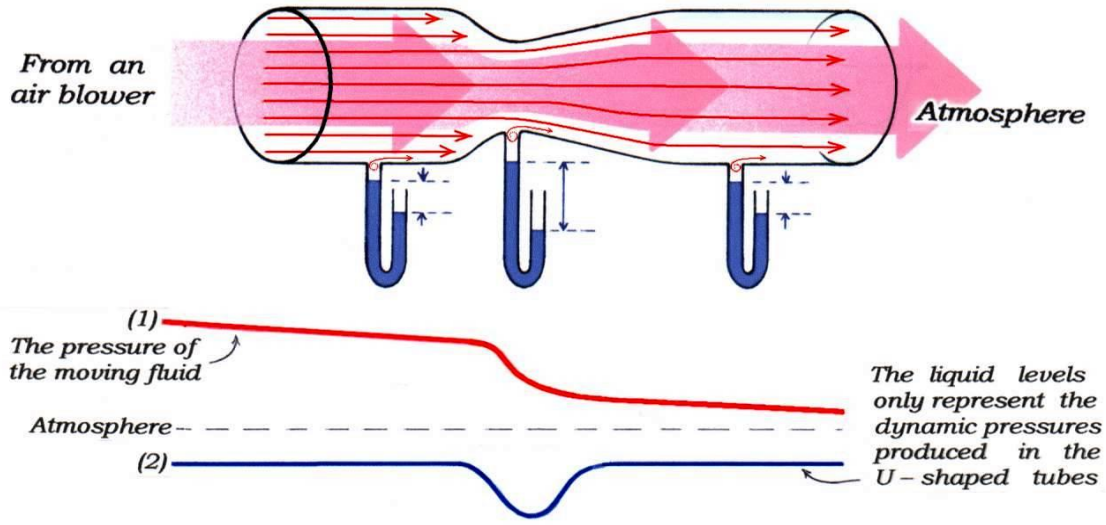
Because of gravity, the frictional force is always present which creates the invisible actions described above and cause low pressure which lifts the liquid in the U-shaped tubes. The liquid levels **do not indicate the pressure of the moving fluid**. Bernoulli's Principle stated that **"A moving fluid has low pressure-the faster a fluid moves, the lower its pressure" is widely misunderstood and mistakes! Seeing is no believing under this circumstance!!** The moving fluid is unable to display its pressure in the U-shaped tubes because the centrifugal forces above the turbulences are the active barriers of the U-shaped tubes. More exactly, some molecules of the moving fluid will be dropped in (U-shaped tube) and some will be thrown out, keeping them balanced to the liquid's weight.

Keep in mind: Unlike a pressure tank, measuring the Pressure of Flowing Fluids is totally different! The measuring equipments must not possess any pockets, holes or pilot-tubes exposed to the flow that generate turbulences and cause false readings. Instead, the turbulence and impact prevention device must be in used no matter what kind of the pressure measuring-equipment is used.

Mity Wongkit

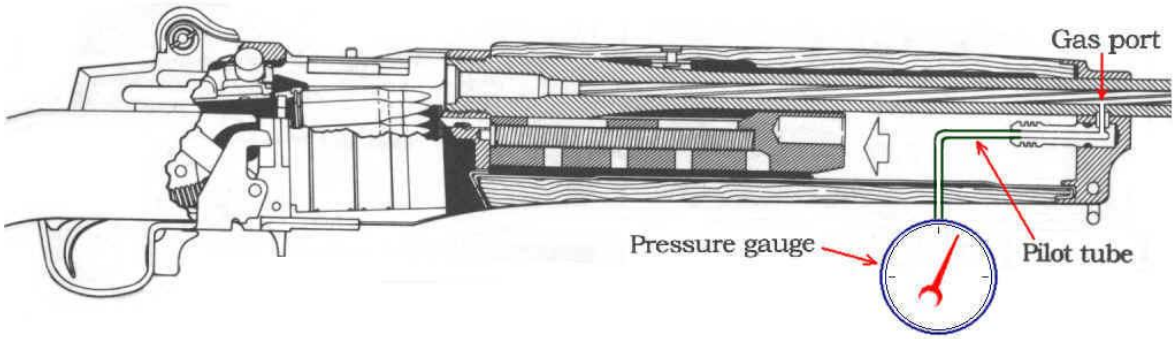
By Mity Wongkit

AN OVER LOOKED FALLACY IN THE VENTURI EFFECT



The above drawing depicts Venturi's constricted channel of flow. When fluid flows through this channel, it lifts the liquid in the U-shaped tubes. Because the speed of flow at the point of constriction is greater than at the other points, the liquid level in the U-shaped tube at that point drops. This phenomenon has led us to believe that **a moving fluid has low pressure. The more rapidly a fluid moves, the lower its pressure. This seems contrary to common sense. Why does a fluid lose its pressure when it moves? There is no reasonable answer to this question.** It feels untrue when standing against strong winds or currents. For an example, gases in a gun barrel move extremely fast under very high pressure.

On February 2, 2001: Professor Kenneth L. Menningen of the University of Wisconsin-Whitewater explained that, "There is a very high pressure along the length of the barrel, **but perpendicular to the barrel the pressure is low.** One way to view this is that the molecules are too 'busy' going down the barrel to impact the sides of the barrel very often. Fewer impacts translates to lower pressure." **If this is true, gas-operated guns would not work**, because most of them have gas ports perpendicular to their barrels. It appears that **there is no suction** as seen on Venturi's tube but **gas discharges at the gas port** to operate gun's mechanism. If a revolver is fired in the dark, gas leaks at the gap between the barrel and the chamber is easily to be seen; **there is no suction**. Also a common situation contrary to the explanation above is a jet of water runs out from a hole on the side of the damaged garden hose while the water is running. If the pressure is low perpendicular to its direction. Why doesn't it suck the air in through the hole? This issue has occurred because of people have been fooled by the liquid levels in the U-shaped tubes or columns for nearly three centuries. The next drawing is an example that the Ruger Mini 14 rifle also has the gas port perpendicular to its barrel.

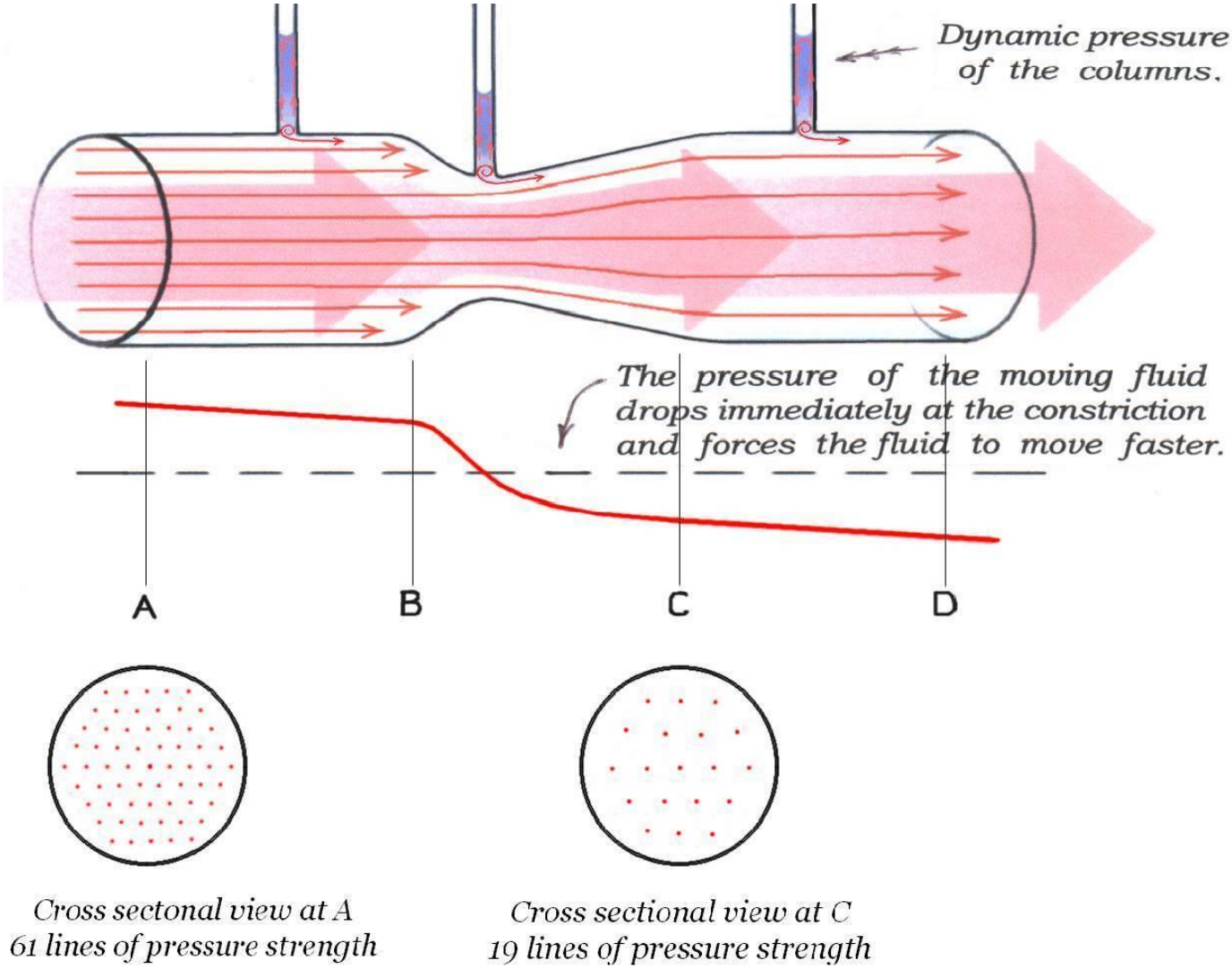


Drawing courtesy of Sturm, Ruger & Company, Inc., reproduced by permission.

Some one who does not understand this concept might say "When I fire a gas operated auto gun, I do not believe there is a turbulence produced in the gas port that has the same configuration as described previously.

This is true, because the pressure of the gas port is lower than the pressure in its barrel. If a pressure gauge is connected to the gas port via a pilot tube to prevent gas leakage which comparable as it were the liquid that clogs the U-shaped tube as shown in the above drawing, when the gun is fired, gases will enter the gas port, build up pressure in the pilot tube until they become equalized each other, and the turbulence will be started. But it maybe not happened, because a gun fire takes only a short duration.

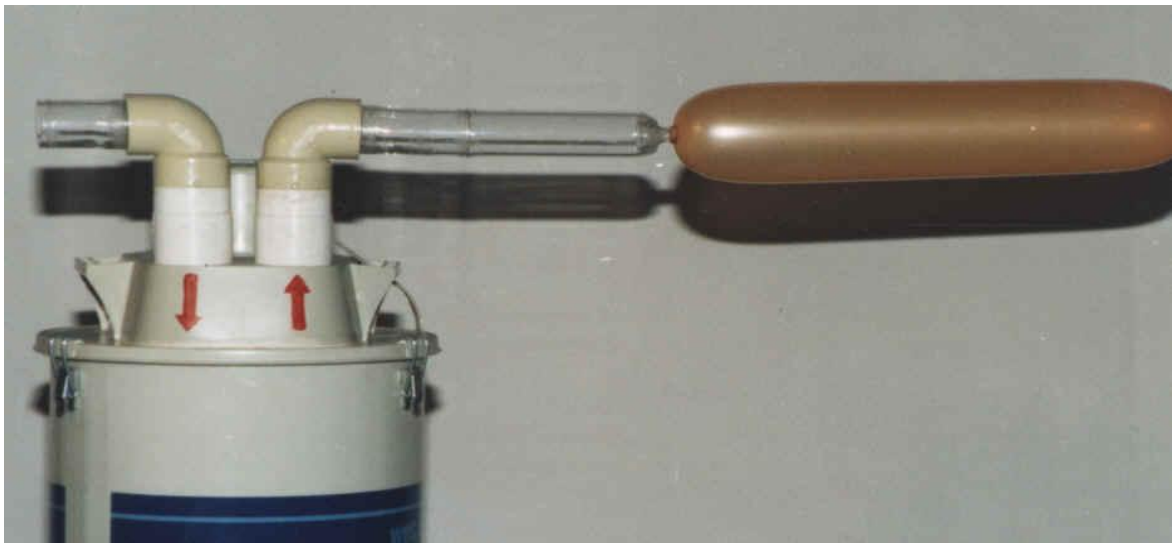
Similarly, a jet of water runs out from a hole on the side of the damaged garden hose, because the pressure in the hose at that point is higher than outside. If a tall vertical tube is hooked up to the hole as a column, then the water will enter the column and build up weight until it becomes equal with the pressure in the hose then the turbulence starts.



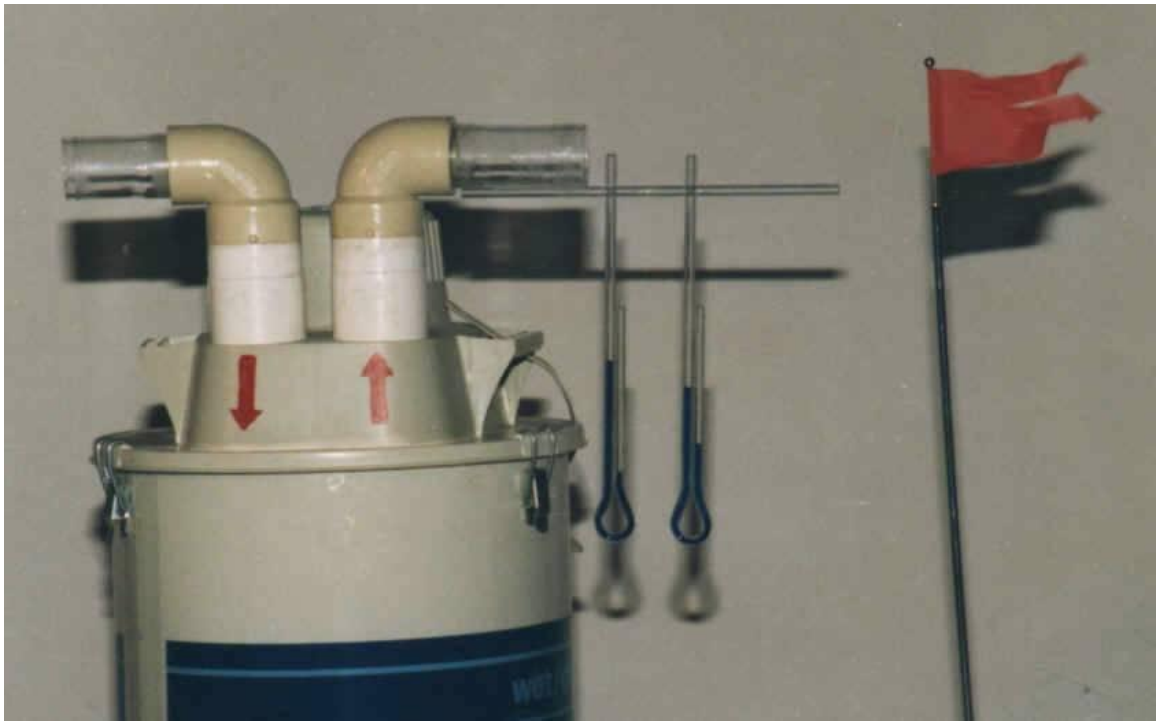
Cross sectonal view at A
61 lines of pressure strength

Cross sectional view at C
19 lines of pressure strength

Above drawing: When a motive force is presented in the channel, stream runs through the constricted channel. The red graph represents the pressure of the moving fluid and indicates that the sections A-B and C-D have the same rate of pressure drop, so the fluid travels at the same speed. The rate of pressure drop is greater at section B-C, because the pressure of the moving fluid (motive force) is partially blocked by the constriction, as represents by fine red arrows, 4 out of 9 lines of pressure potential (motive force) are blocked and only 5 lines of them are able to pass through the constriction then distribute their pressure as they enter the un-constricted section of the channel. (If look into the cross sectional view at sections A and C; we see 42 out of 61 lines of pressure potential are blocked, only 19 pass.) The blockage at the constriction creates a greater pressure potential difference between the left and right sections and forces the fluid to move faster at the constriction than section A-B and C-D, since **the speed of the moving fluid is controlled by its pressure (not the pressure is controlled by its speed). The higher the pressure potential difference, the higher its speed, from a location to another location attempting to equalize the difference.** (That is why gases in a gun barrel move extremely fast.) **The liquid levels in the columns** (or U-shaped tubes) **reflect the dynamic pressure produced in the columns themselves, but not the pressure of the moving fluid. These levels do support Bernoulli's laws relating to dynamic pressures as a function of fluid speed.**



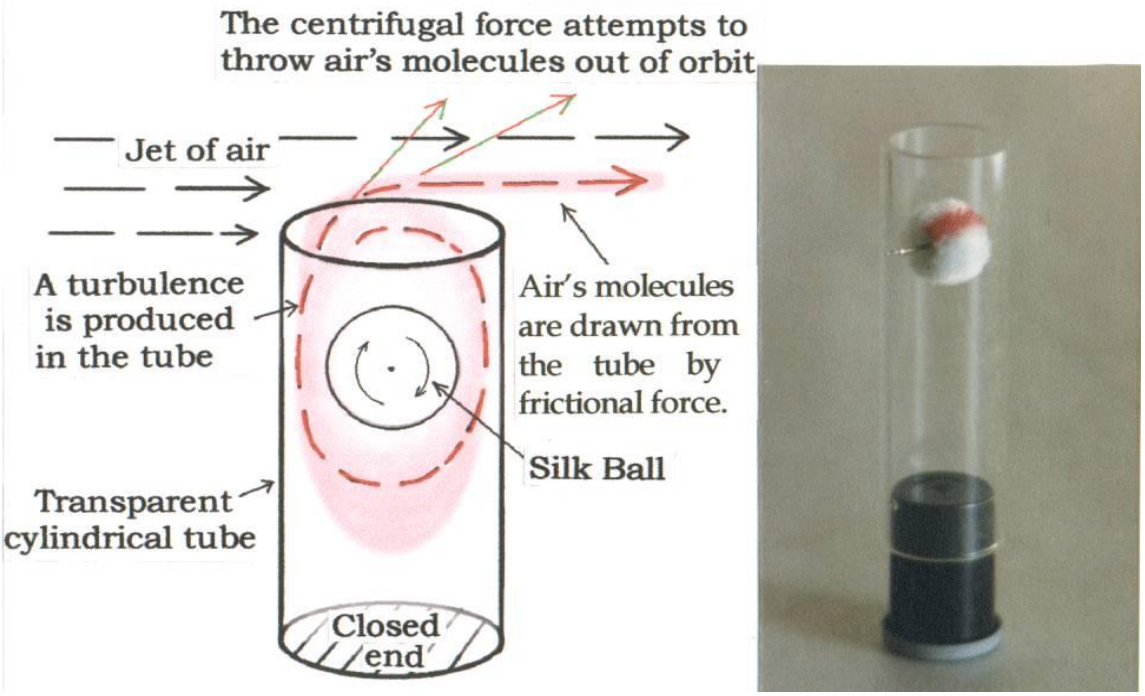
Above photo: The output of the air blower produces high pressure that inflates a balloon.



Above photo: The output of the air blower changes the liquid levels in the U-shaped tubes. When air flows; the liquid levels show that pressures are low and that the pressure is lower in the tube nearest the output since the air there moves faster. **The liquid levels show that air moves from low pressure to high pressure**. **This is contrary to our understanding of nature and virtually impossible. This is also proof that the liquid levels are not a function of the pressure of the moving air which passes over the U-shaped tubes,** (only a function of its speed). Fluid under pressure tends to equalize that pressure with its surroundings. Machines such as engines, hydraulics and firearms work under this natural law of pressure equalization. Fluids under **high pressure** move toward **low pressure** areas, while the reverse is never seen. This law appears to have been ignored. In addition, frictional and liquid molecular-cohesive forces are not accounted for in the Venturi Effect.

Nature itself provides an example. Although the friction of moving air on water is slight, it can creates waves. With sufficient wind speed, waves may be carried onto land. As wind speed is increased, frictional force is also increased.

HOW THE FLUID IS DRAWN



Above photos: In an experiment, a silk ball is placed on a shaft in a transparent tube so that the ball is below the level of the tube's open end and any flow that passes over it. The other end is closed. The open end of the tube aligned with air flow as shown in the photos. When the air blower is switched on, the ball spins at a high speed. This proves that when a fluid moves across the open end of a tube, the turbulence is produced within the tube. At the same time, the centrifugal force acts to throw the fluid molecules out of their orbital path and together with the passing fluid draws the fluid from the tube by friction and causes a low pressure in the tube. This will occur even in the small tubes because fluid's molecules are very fine.

Blowing a whistle, a flute or a bottle creates turbulence and generates sound. This is a well known phenomenon that has the same principle.

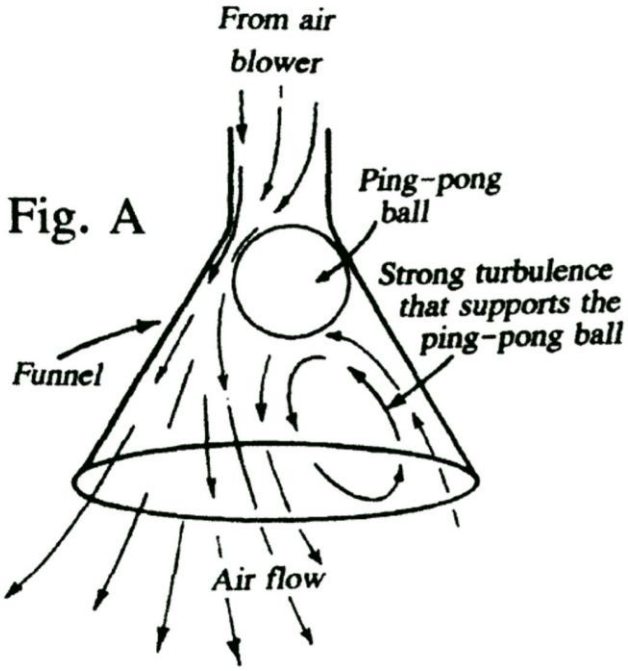


Fig. A

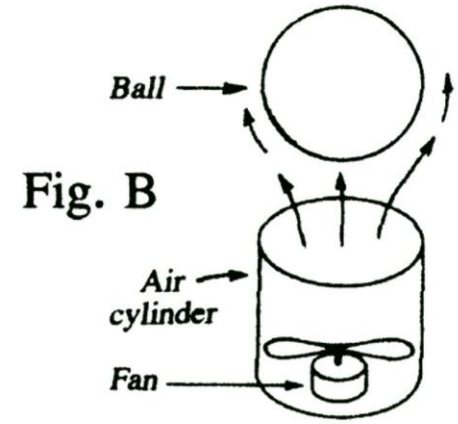


Fig. B

Fig. C

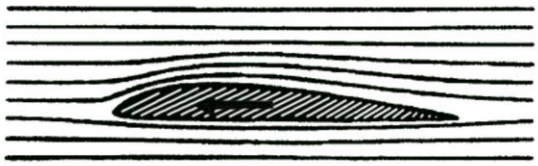


Fig. **A**, depicts a demonstration in which a funnel is attached to a hose which is connected to an air blower. A ping-pong ball is placed in the cone of the funnel so that it will be held and moves around at the funnel's bottom. The accepted explanation states that the air flow at the bottom of the funnel moves faster than the air at the end of the funnel so it has a lower pressure and holds the ping-pong ball. This is untrue. If a cube of foam, a cotton ball, or a wood chip replaced the ping-pong ball in the funnel, it would be blown right out. The air flow acts on the spherical body in a cone-shaped air chamber with the matching speed of air flow. These factors together create a strong turbulence that supports the ping pong ball. This turbulence is unstable and moving around in the cone.

Fig. **B**, is a similar demonstration without the funnel. A spherical ball floats at a constant distance above the air cylinder. Why doesn't the ball get closer to the air cylinder? The air flow around the ball is faster as it approaches the cylinder. The ball is also helped by gravity.

Fig. **C**, a small amount of low pressure is created on the top-rear of an airfoil while traveling in the air. The current explanation maintains that the upper surface is longer than the lower surface of the airfoil, so air moves at a greater speed over the upper surface than under the lower. This causes the air on top to have a lower pressure. **This is an incorrect premise. The low pressure is not created by the faster moving air. The speed of moving fluid does not determine its pressure, but rather, the pressure determines its speed**. If the valve of an inflated tire is removed, a jet of air will rush out due to the pressure potential difference. The speed of the moving air will gradually diminish because the pressure of the tire is decreasing**.** Using the old established concepts for measuring the pressure of the moving air around an airfoil, all of the readings are fakes. **The air speed is what determines the pressure in the pilot tube. The reading is just the pressure in the pilot tube, not that of the moving air.**

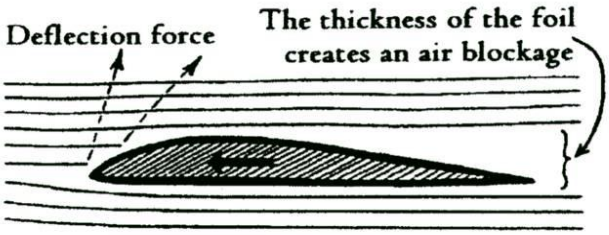
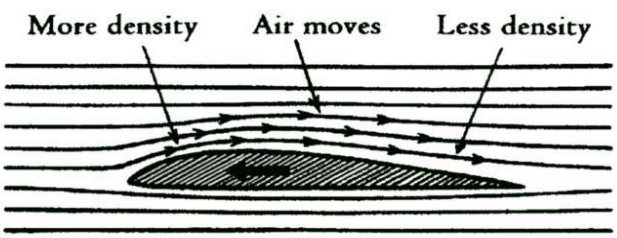
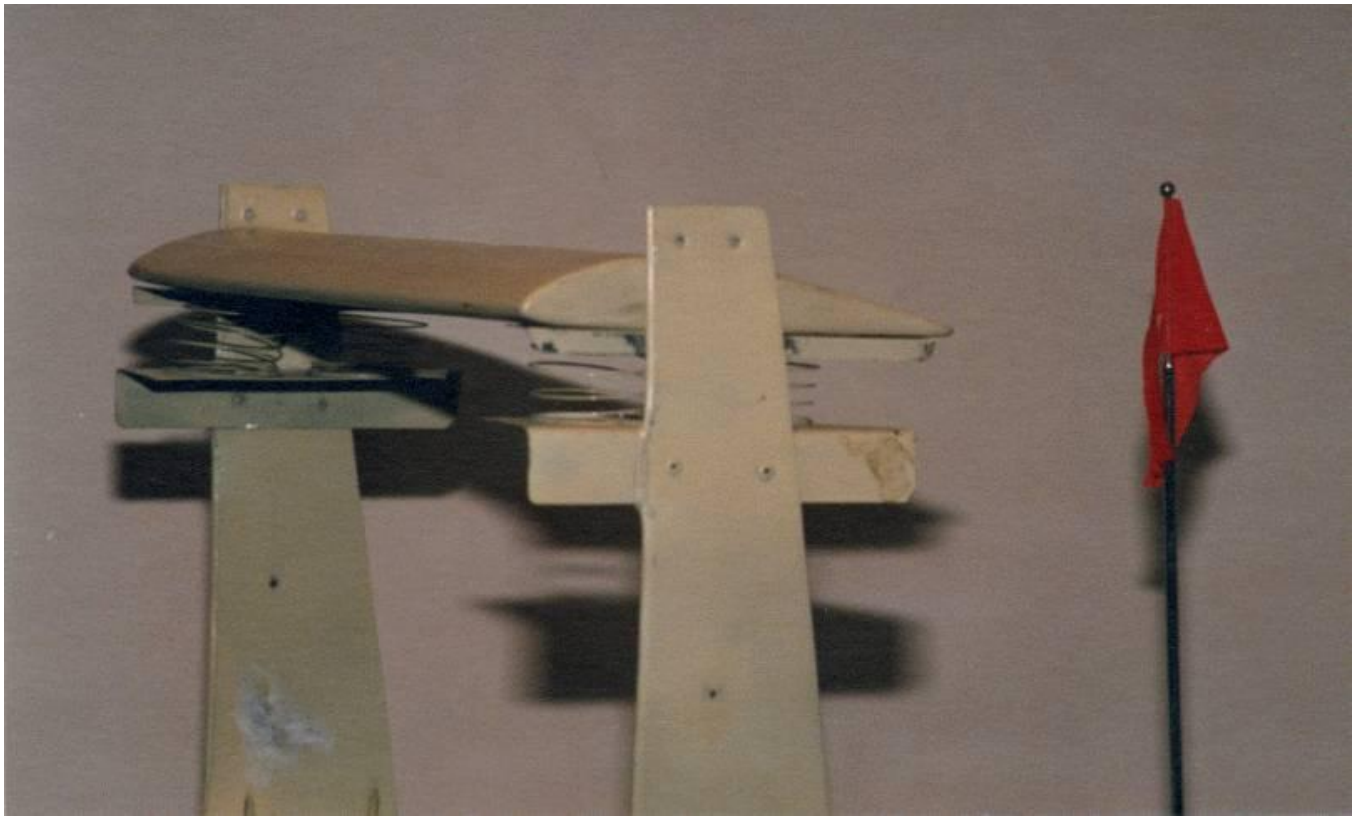


Fig. D



Result

Fig. **D**, when an airfoil is moving, air at the front edge is compressed (positive dynamic pressure) and tends to rise. This upward force is resisted by the surrounding air, but it does decrease the air pressure on the top-rear of the airfoil (negative dynamic pressure). The pressure potential difference or motive force that is created forces the air to move faster from high to low pressure (equalize attempting). **An amount of energy must be spent against the drag on the front edge to get a little low pressure along the top-rear edges which is minor and not enough to lift the plane at all.** Currently it is believed that air passing over a curve creates lift. If this is the case, **how can stunt planes fly upside down?** They are able to fly because the air is attacking under the wings and bodies like kites; also kinetic energy is a significant factor of the flights. However, proper curves of the wings are good in terms of configurations and structures. 6

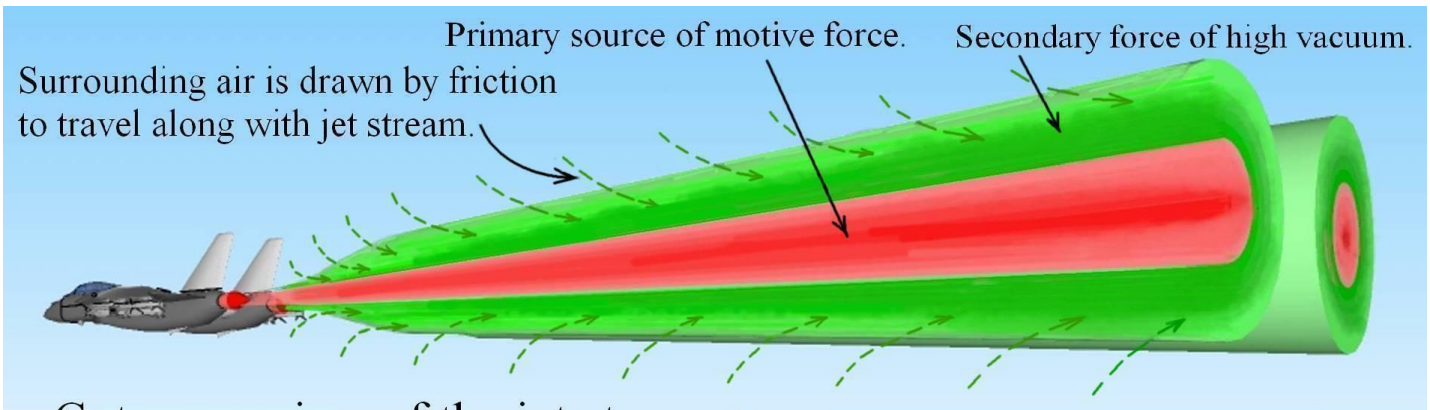


2 Above photos, demonstrate something different. Unlike an airplane wing that is fixed to the plane, an airfoil is suspended horizontally on four springs and is aligned with the air flow. When the air blower is switched on, the stream of air presses the front-edge down and raises the top-rear up. This emphasizes the explanation of **F**ig. **D.** on the previous page.

The above image is published by copyright owner signed at low-right corner

Above photo is an amazing image which is an illusion for people. It is the moving fluid has low pressure! Or perhaps its pressure perpendicular to the direction of flow drops!!?

None of them! It is noticeable that there is a distance from plane's jet streams and the surface of the sea, the plane is flying parallel to the surface of the sea. So the jet streams do not touch direct onto the surface of the water. The following is the key answer.



Cut away view of the jet streams

Bernoulli and company have been rather proud of being ignorant of such an important matter. There is one important fact of which they have been unaware; it is the **friction** between fluids (plus molecular cohesive force in case of liquid) which has been missing. The drawing on previous page depicts the jet streams from the plane's engines those are the primary source of motive forces. As a matter of fact, they have very high pressures and move toward attempting to equalize their pressures with the surrounding atmosphere; indicated in reddish color. They take a specific distance to complete the processes due to their kinetics that travel beyond a speed of supersonic against the frictions of surrounding airs. During they are rushing; airs in contact with the jet-streams are sudden drawn by frictional forces to travel along with the jet-streams. As the jet streams move at high speeds, the frictions are also functionally high. These actions create the secondary of high vacuum forces in the shape of tubular outskirts along with the jet streams as indicated in greenish color. When the plane flies so low, both of the tubular of vacuums touch down on the surface of the sea, then the waters are sucked up at high speeds; the actions are coming in series of a chain reaction and generate the triplex of the kinetic energies in the up rising waters those make the waters go high up in the air. The generation of the primary forces may partially be seen as burning gasses but the secondary vacuum forces and the triplex kinetic energies of up-rising waters are absolutely invisible those could blind people.

If the Jet streams from the plane's engines touch down onto the surface of the water, dual huge splashes must be generated visible at the ends of each trace of the up-rising water like blowing the air on the surface of water using a drinking straw as seen on the above image. Please look carefully how the surface of the water has been blown down into a pit and splashed away as the stream of the air reflected at the surface of the water.

In this case, the secondary action produced by friction between moving air and the surrounding air is minor and doing nothing since the size and speed of the moving air is very small and very low compared with the jet engine.

There is no sign of pressure drops perpendicular to its direction of flow.

Why does the shower curtain move toward the water?

—P. Wood, Philadelphia

David Schmidt, an assistant professor of mechanical and industrial engineering at the University of Massachusetts at Amherst, offers this explanation:

Maybe it happened to you this morning: you entered the shower, and the curtain moved in to engulf you. I have recently discovered a new explanation for this common phenomenon, thanks to modern fluid-simulation technology.

Until now, explanations for the shower curtain's movements were theoretical. Most ideas drew on the Bernoulli effect or on buoyancy effects. The Bernoulli principle, which explains how an airplane's wings produce lift, states that as a fluid accelerates, its pressure perpendicular to the direction of flow drops. But the Bernoulli effect is based on the balance between pressure forces and acceleration and does not allow for the presence of droplets.

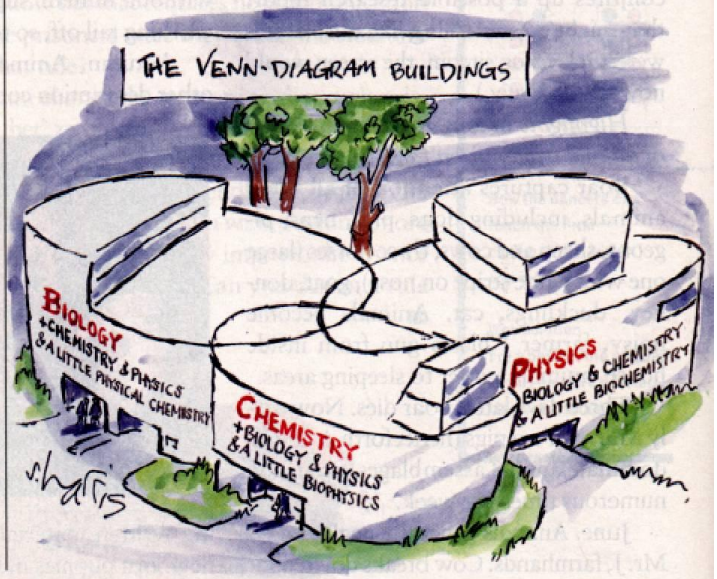
The buoyancy theory supposes that the hot shower causes the temperature of the air in the shower to rise, reducing its density. In that case, the pressure will be lower on the shower side of the curtain than on the other side of the curtain at the same height—causing the curtain to move toward the lower pressure. The problem with this explanation is that the curtain will move inward during a cold shower, too.

A modern way to study fluid-flow problems is to use computers to solve the basic equations of fluid motion. These equations are based on conservation of mass and momentum. Because of the limitations of computer power and of current mathematics, however, the solution process can be difficult and time-consuming. Spray simulations are particularly challenging because they involve two different phases of water: liquid and gas.

I drafted a model of a typical shower and divided the shower area into 50,000 minuscule cells. The tub, the showerhead, the curtain rod and the room outside the shower were all included. I ran the software for two weeks on my home computer in the evenings and on weekends to simulate 30 seconds of actual shower time.

When the simulation was complete, it showed that the spray drove a vortex. The vortex rotates continuously around an axis perpendicular to the shower curtain. The center of this vortex—much like the center of a cyclone—is a low-pressure region, which is what pulls in the shower curtain.

For the complete text of this and many other answers, visit Ask the Experts (www.sciam.com/askexpert).



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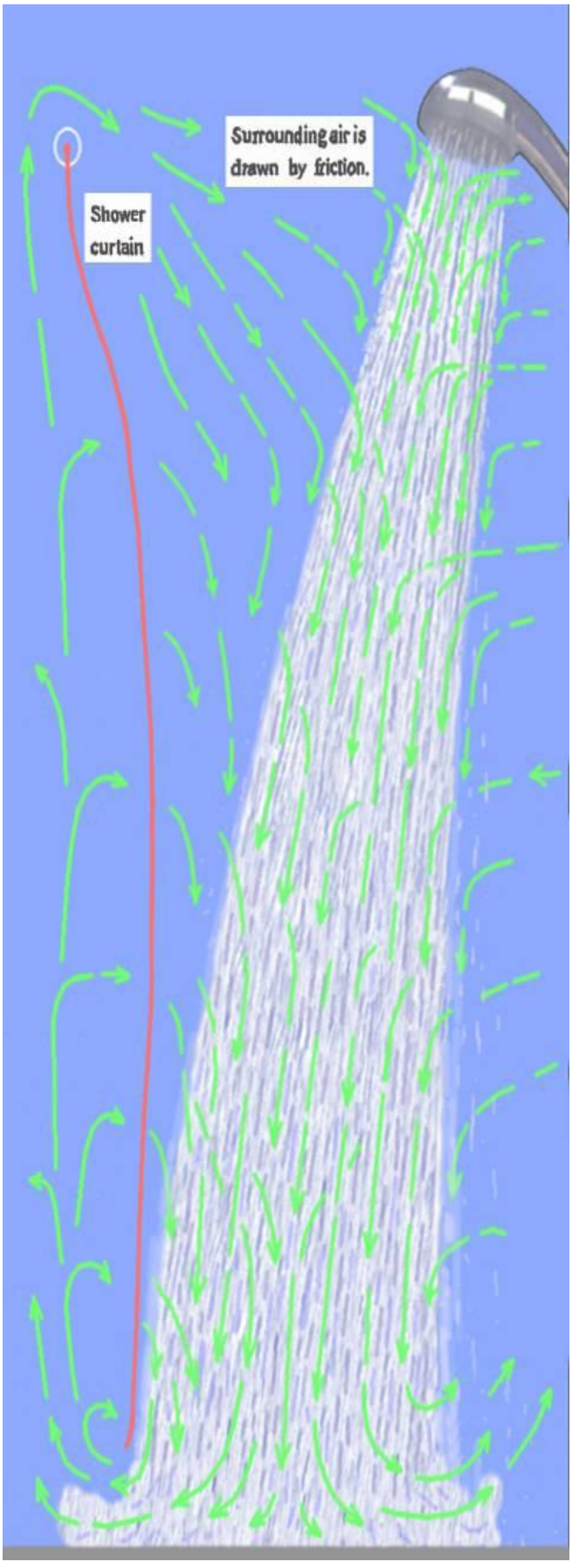
Why does the shower curtain move toward the water?



Refer to an article of the SCIENTIFIC AMERICAN Magazine October 2001 Volume 285 Number 4, Column END**POINTS** Page 96, as shown on the previous page. David Schmidt at University of Massachusetts stated that he discovered the spray of the shower drove a vortex. The vortex rotates continuously around an axis perpendicular to the shower curtain. The center of this vortex-much like the center of a cyclone-is a low pressure region, which is what pulls in the shower certain.

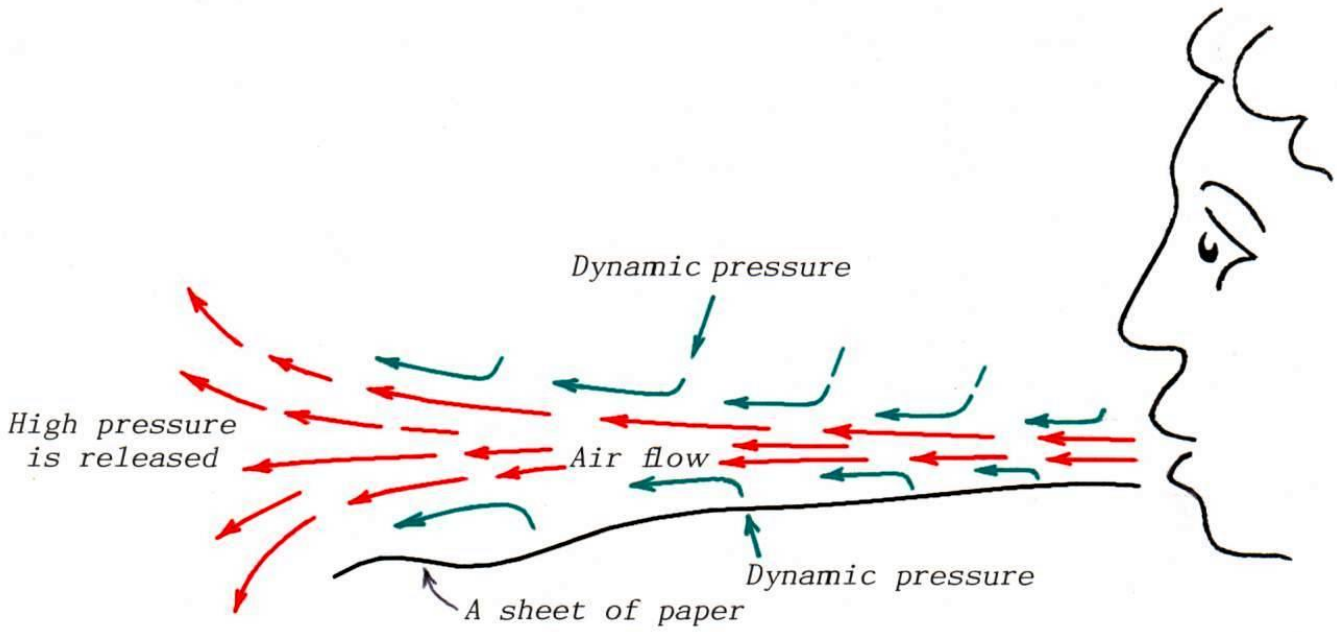
David Schmidt was wrong. There is no such a vortex! What had been found is the current of the moving air around the shower. Frictional force has been neglected in this case. This is **relatively simple**, and can be explained as follows:-

Left drawing: Under the influence of gravity, **frictional force is always present and active**. When the shower is running, the air in contact with the droplets of the shower is drawn by friction to travel along with the shower as represented by green arrows, and then the surrounding-adjacent air moves in to displace and pulls in the shower curtain (red line).

That is all about.

This is incredible! Millions of people in the whole wide world who have studied Fluid Dynamics in the past-period of nearly three centuries have missed out!!

This is the most famous human error ever!



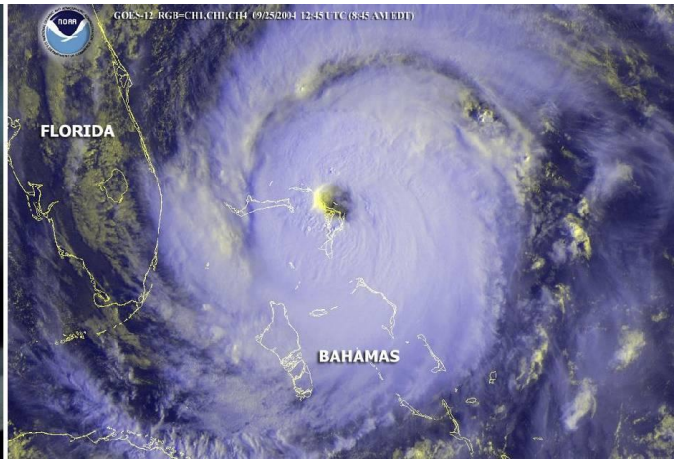
Similarly, holding a sheet of paper under the lips and blowing air causes the paper to lift under the stream of air. The compressed air from the mouth has higher pressure than the surrounding atmosphere; it moves forward (red arrows) to equalize its pressure with the surrounding air and draws the surrounding air to travel along with the air stream by friction (green arrows). Then the surrounding-adjacent air moves in to displace and pulls up the sheet of paper same way as jet plane on page 8. **Lift is not created by low pressure in the air as experts have said.**

The Bernoulli principle, which explains how an airplane's wings produce lift, states that "As the fluid accelerates, the pressure perpendicular to its direction of flow drops" is a nonsense reason and never be happened; that is what have been found only in U-tubes, pilot tubes, columns and similar configuration as explained on page 1. This can be seen by using a flame and smoke. Also, deep well jet pumps work by the frictional and liquid-molecular-cohesive forces; not because of jet-water has a low pressure or force perpendicular to its direction of flow.

Please note: We should not always trust computers on this subject, since some incorrect data may have been installed.

It is commonly known that the center of a tornado has low pressure. Experts explain this by pointing out that the wind speed at the center of the tornado is high. They do so because they have learned this and never questioned it, but this is not the true reason. The true explanation for the low pressure in the core of a tornado is the **centrifugal force that throws the air's molecules away from its center.**

When a hurricane is formed on the surface of the ocean, a great amount of mist is produced by friction between the winds and the water. Since this mist has more mass than air molecules, the centrifugal force increases its power, the size of the hurricane increases and reaches to the top of the atmosphere. The eye of a hurricane is a region of vacuum produced by the powerful centrifugal force. When it moves onto land where moisture is lacking, without this mist, the centrifugal force loses its power, and the winds of the hurricane subside.



Images Courtesy of US National Oceanic and Atmospheric Administration

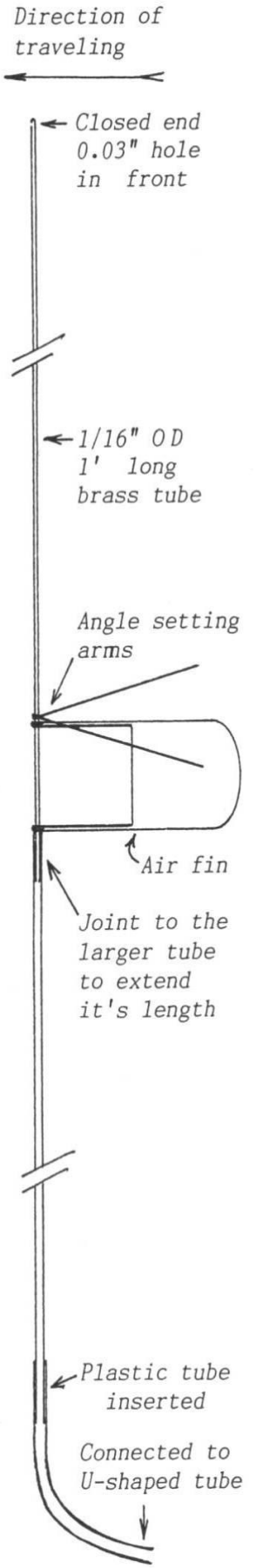
Reversing the action: Suppose a bullet is suspended motionless in the air. If a man runs into the bullet at the speed of a bullet, he will be wounded as though he had been shot.

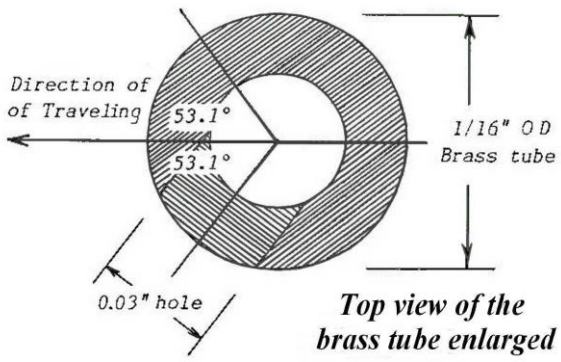
As shown in the above photos, I reversed the process by making the U-tube moves instead of air moves. An open-ended hose is taped to a pole attached to the front of a car. The other end is connected to a U-shaped tube which is partially filled with liquid and attached inside the car. When the car is driven, the pressure is lowered because some air is drawn out by friction between the stationary air at the tip of the pilot tube which is in contact with the passing air and creates the actions as described on the front cover. The liquid level changes from that observed in the non-moving car, which is essentially atmospheric pressure.

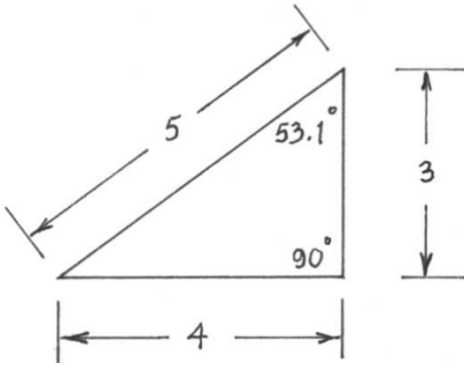
This experiment proves that the liquid level is not the pressure of the air that is in contact with the tip of the pilot tube during traveling. It is only the pressure of the pilot tube, the dynamic pressure.

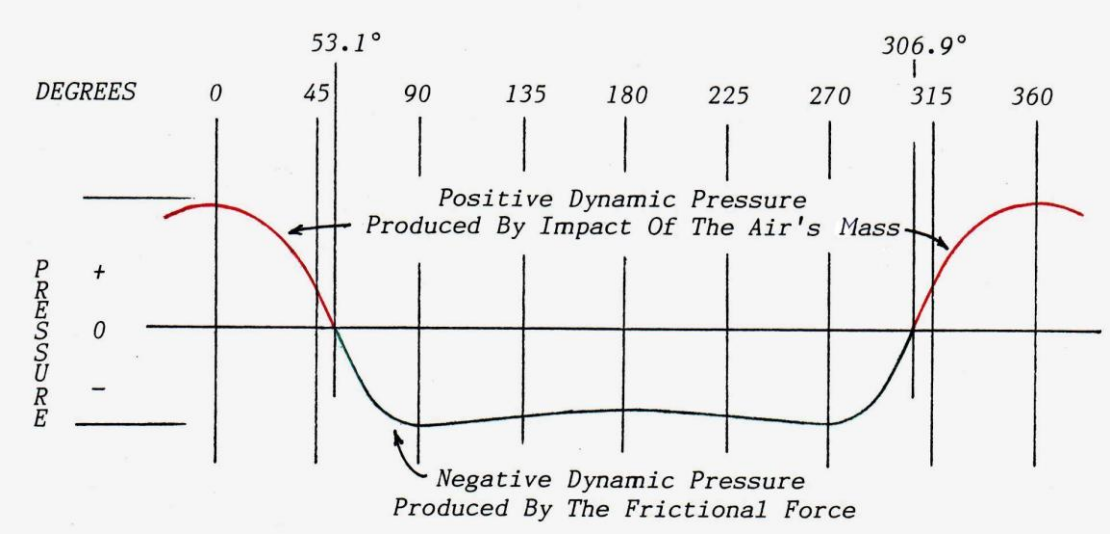
POSITIVE AND NEGATIVE DYNAMIC PRESSURES

In another experiment, I used a 1/16 inch outside diameter brass tube. I soldered one end shut and drilled a small hole near that end. I lengthened it with a larger tube to which I attached a plastic hose connected to a U-shaped tube. The left drawing on next page illustrates this apparatus. I partially filled the U-shaped tube with liquid and attached it to the inside of a car. With the assistance of a driver, I held the tube vertically outside of the car as we drove. I rotated the tube left and right around its axis. When the hole on the tip of the tube was facing the direction of travel, high pressure (positive) was produced in the tube due to the impact of the airs mass. While I slowly rotated the tube to the right or left, the pressure in the tube gradually decreased (negative) until the hole was at about 53.1 degrees from the direction of travel, at this point the reading became zero. Further rotating, the pressure became lower until the hole reached 90 degrees from the direction of travel, when it was at its minimum. When the tube was rotated so the hole was facing the opposite direction of travel, the pressure was still low. The high pressure produced by impact of airs mass is stronger than the low pressure produced by the frictional draw off. Coincidentally, the 53.1 degree angle is equal to one of the angles of a triangle with sides at a ratio of 3:4:5.







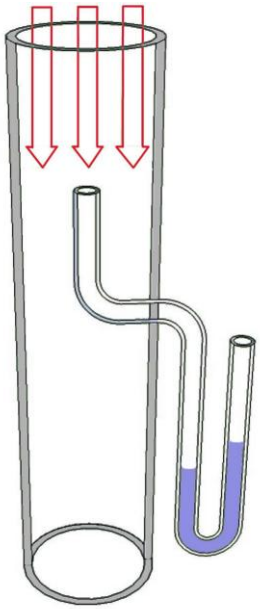


The graph shows that the liquid level changes as the tube is rotated during travel.
When the test tube is set at 53.1 degrees, the liquid level shows no change in pressure.

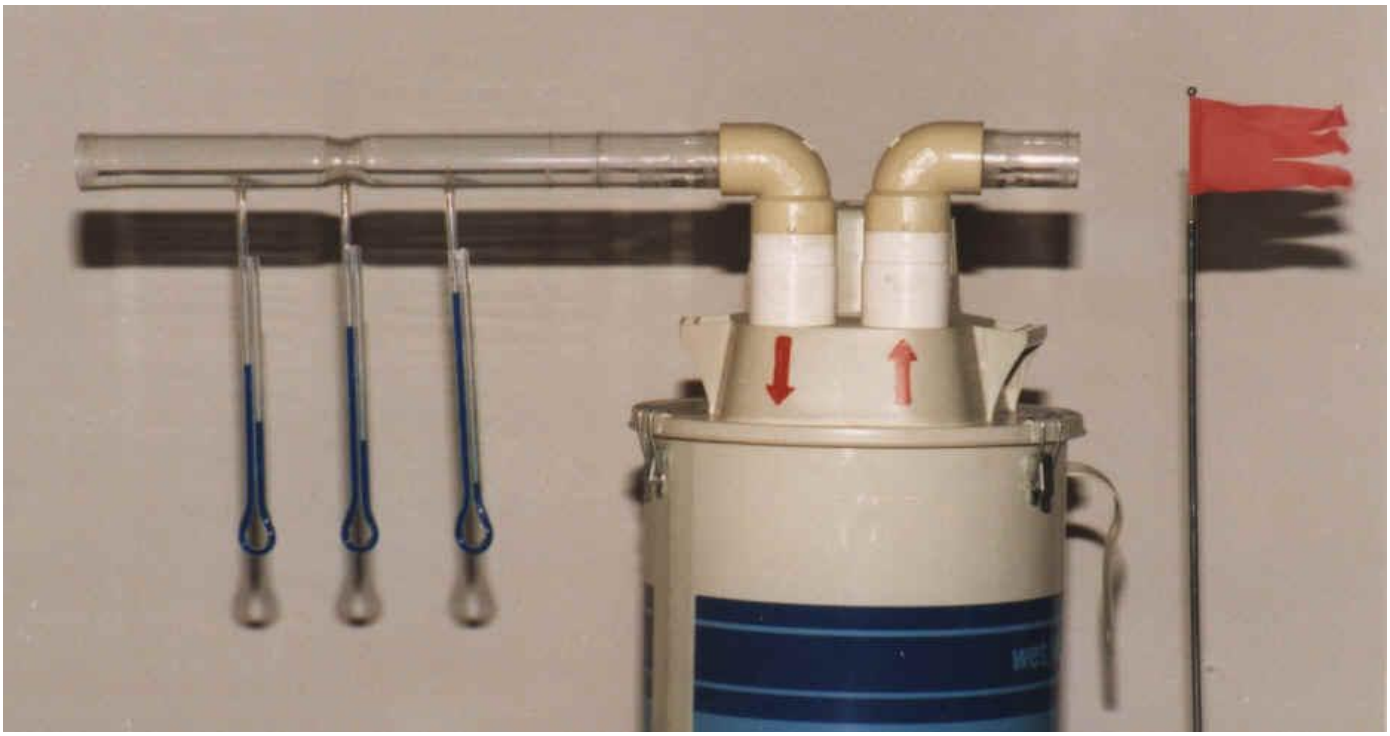
From my experiment, I have found that there is no dynamic pressure produced at 53.1 degrees from the direction of travel. In other words, it is the balance angle or Critical Angle between positive and negative dynamic pressures. I have used this method to prevent turbulence and impact in U-shaped tubes and columns to measure the pressure of moving air and water flow in Venturi's constricted channels. The resulting measurements are consistent with the natural law of pressure equalization. The experimental design is alterable.

An apparatus showing on the right delivers the Positive Dynamic Pressure reading of the U-tube produced by impact of fluid-molecules, **no matter the passing fluid has a high or low pressure** compare with the atmosphere (being forced to move by compressing or vacuuming). But the readings of Bernoulli & Venturi method are Negative Dynamic Pressures and **always** lower than the actual pressure since an amount of fluid is being removed from U-tube by the passing fluid in contact which activated by friction, plus molecular cohesive in the column of liquid.

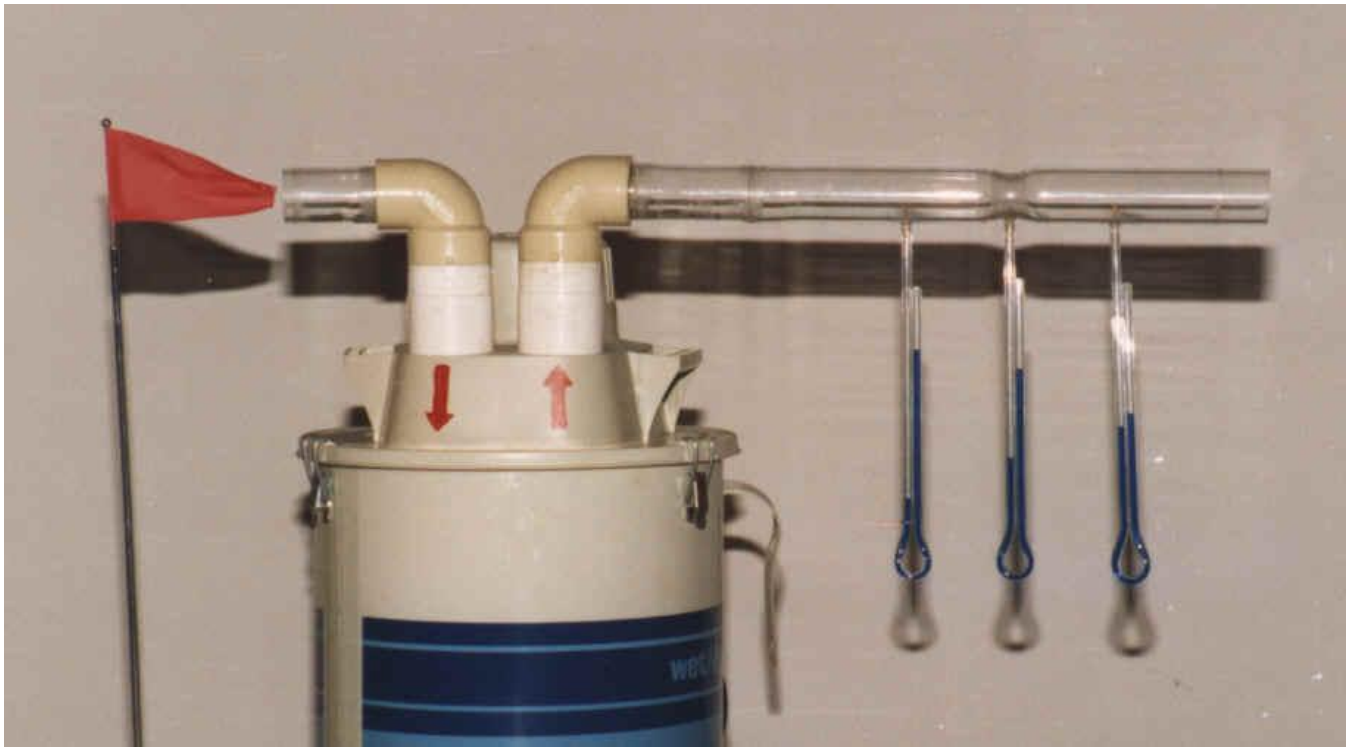
The readings of both systems are the functions of fluid speeds but **they are not the pressure of the moving fluid!**



The following photos depict using the new measuring method.

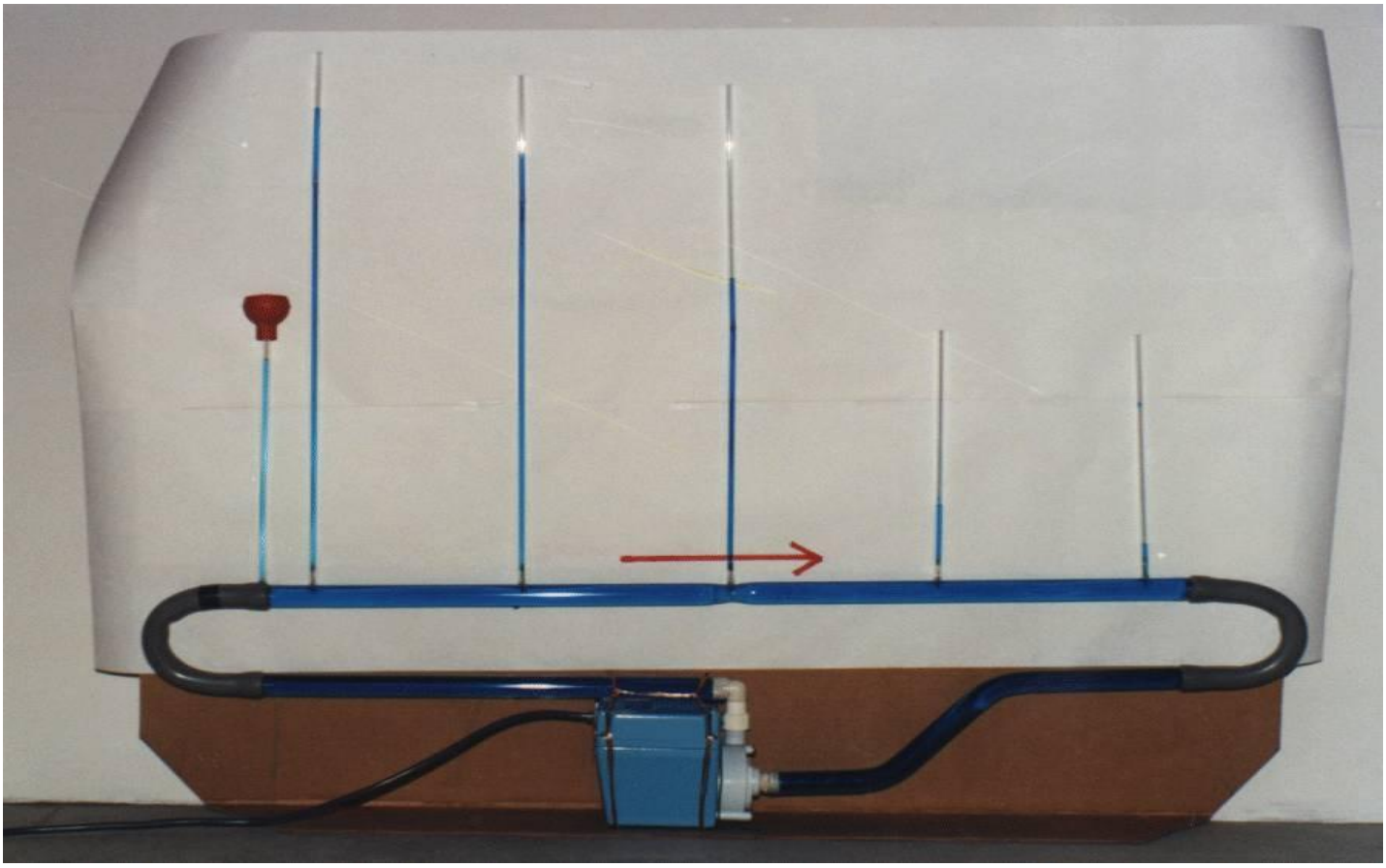


The vacuum machine produces low pressure at the input side. The liquid levels show the pressure is gradually decreasing and the pressure at the constriction is not the lowest among the three.

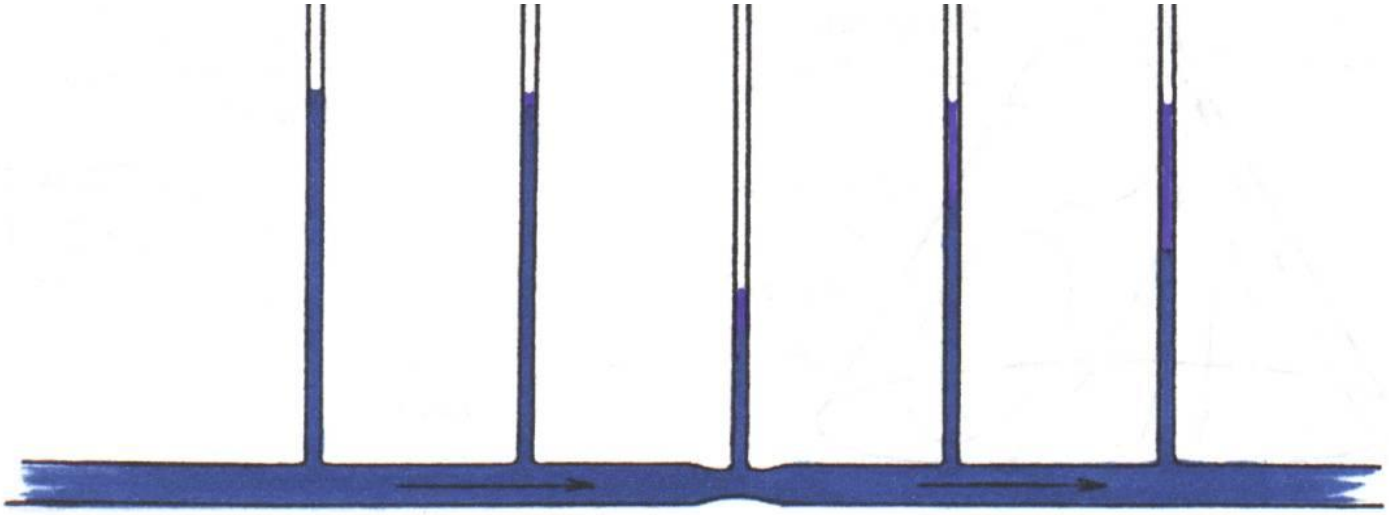


The liquid levels show the pressure of the moving air from the output side of the vacuum machine is high at the point of exit and gradually lowers as it leaves the tube.

Note: The liquid levels using the conventional method of demonstration always show the pressure is low (negative readings) both at the output and input sides of the vacuum machine.



The tinted water is driven by an electric pump through the constriction in the closed loop. The measurements are consistent with the natural law of pressure equalization. Compare to the column capped by the red reserve pot which uses the old method of measuring and the pressure is not the lowest at the point of constriction. Please note the brass measuring tips at the joints of the channel and columns on the above photo and the two photos on the previous page.



The above drawing shows the liquid levels produced using the accepted method of demonstration. If clear water is used, dropping colored powder into the columns during flow would allow us to see actions in columns.

SUMMARY

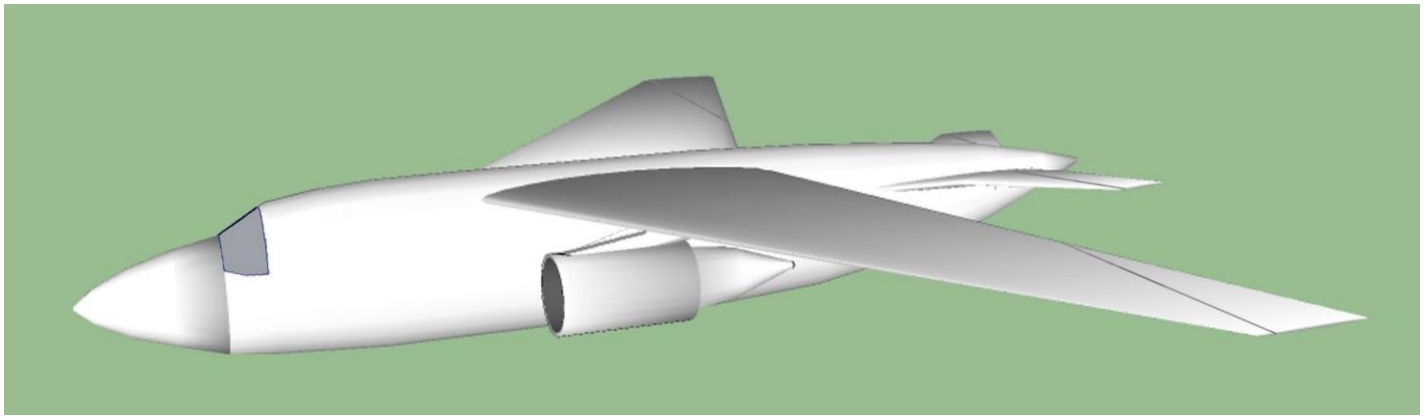
Presently, Fluid Dynamics is very complicated and not always intuitive because we have misunderstood the phenomenon of the Venturi Effect. Unfortunately, Bernoulli had been working on an illusion in which of **Seeing Is No Believing under this circumstance**. The frictional, liquid molecular-cohesive and motive forces are the significant natural forces those had been out of Bernoulli's mind and neglected. Taken root on the liquid levels as seen in Venturi Effect as they were the pressure of the moving fluid (page 1). Since then the theory of Fluid Dynamics had been put in a false position due to an incorrect notion. The impressive keyword has stated that: **"As a fluid accelerates, its pressure perpendicular to the direction of flow drops"** has embedded deep-down into the brains of all students in the whole wide world for nearly three centuries; and the result: The followers had, have become doctrinaires of Bernoulli and have continued using the incorrect premises on their works and released the false statements to the public such as: The center of a tornado has a low pressure because the wind speed at its center is very high (page 11), or the faster moving airs above the airplane wings produce lift (page 6), etc. Fluid Dynamics is in accord with natural laws and can be defined as scientific configuration. As the liquid levels are the function of fluid speeds; Bernoulli's laws and equations can be used in solving problems involving fluids in motion with somewhat compromise. What Bernoulli called Pressure, P = Negative Dynamic Pressure which to be found in his instruments only but nowhere else no matter the flowing fluid is forced to move by hooking-up to the input or output of a blower or a pump (page 14). However, Bernoulli's Principle mistakes; one of the disproofs is that the actions of gas-operated guns (page 2: There was no gas-operated gun or aircraft in Bernoulli's live-time yet)! The explanation by Bernoulli's folks that have described how the airplane wings produce lift is unbelievable as we see stunt planes fly upside down; the curves above the wings turn down below and they go!! If Bernoulli's Principle is true: Imagine: Why not the planes are pulled down by their own wings and hit the ground? Gravity is the significant helper to do so! Even more, radio control helicopter's rotors have the same design as aircraft wings without flaps also are able to make inverted flights too!! Where is the Bernoulli's Principle action?

Please see the demonstration photos:-

Courtesy of Cleveland National Air-show: Inverted flight flown by John Klat

RC Helicopter Inverted flight. Courtesy of Roger Buerge of Switzerland: Demonstrator:

ADDENDUM

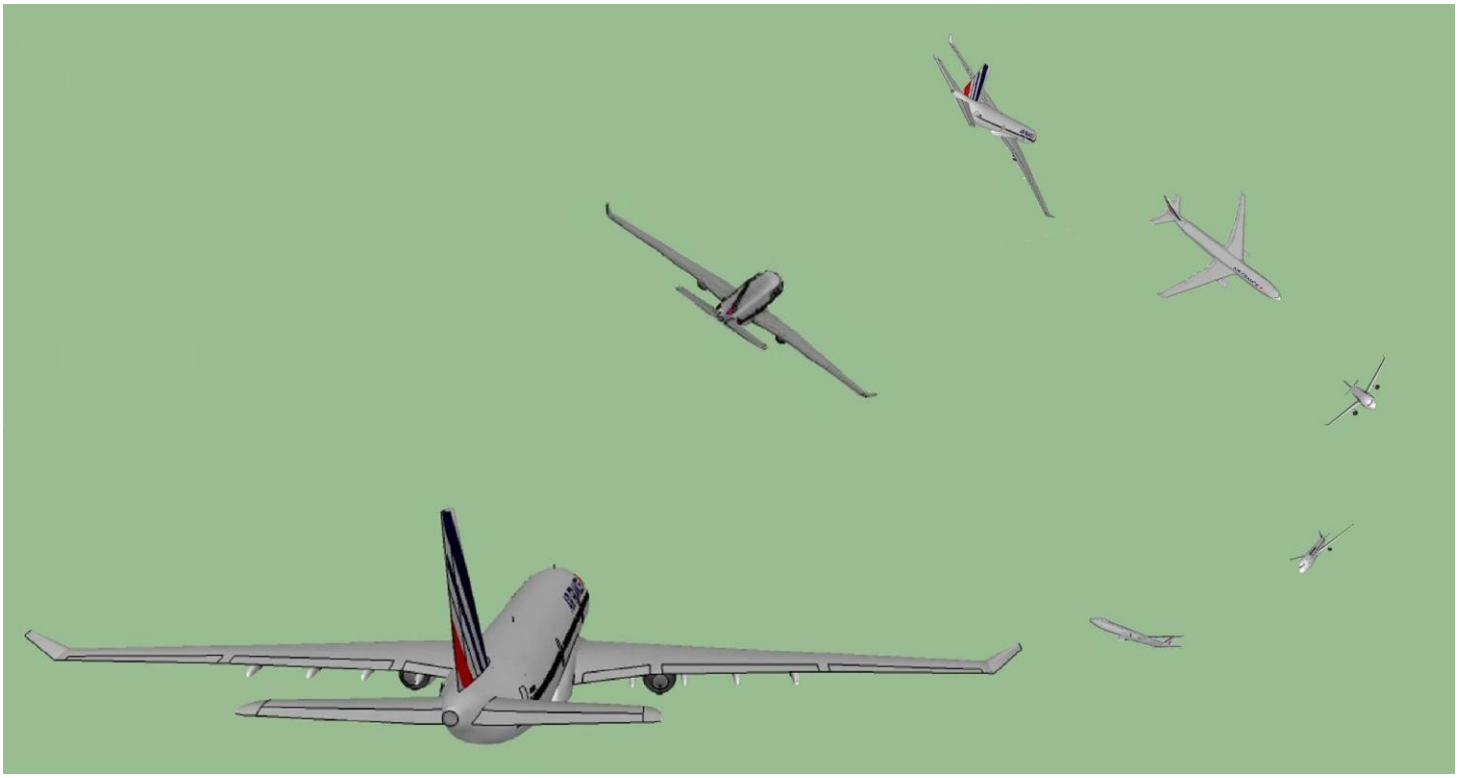


No Vertical Stabilizer Needed. Aircrafts are designed for flying in the air but there is an irregular thing in the design. It is the Vertical Stabilizer (tail-fin), the design-engineers should eye on the birds' tails or lobsters' tails rather than looking at fishes' tails. There is no vertical stabilizer have been found on any kind of birds, bats or flying insects. Vertical Stabilizers of airplanes are unnecessary extra parts. Right and left elevators should be independent of each other and to be controlled the same way as wing-flaps; right or left tilt makes the plane turns right or left naturally. Eliminating these parts will cut cost, cut maintenance and reduce drag during flights; the planes will travel faster and cut down fuel consumptions. Also reduce a complication out of the planes' control panels that make them easier for pilots. Wings of airplanes and flying creatures are taking care of their pay-load at full gravity during flights, unlikely; marine-lives are having few or nearly zero gravity in water. So, flying in the air and under the water is quite different.

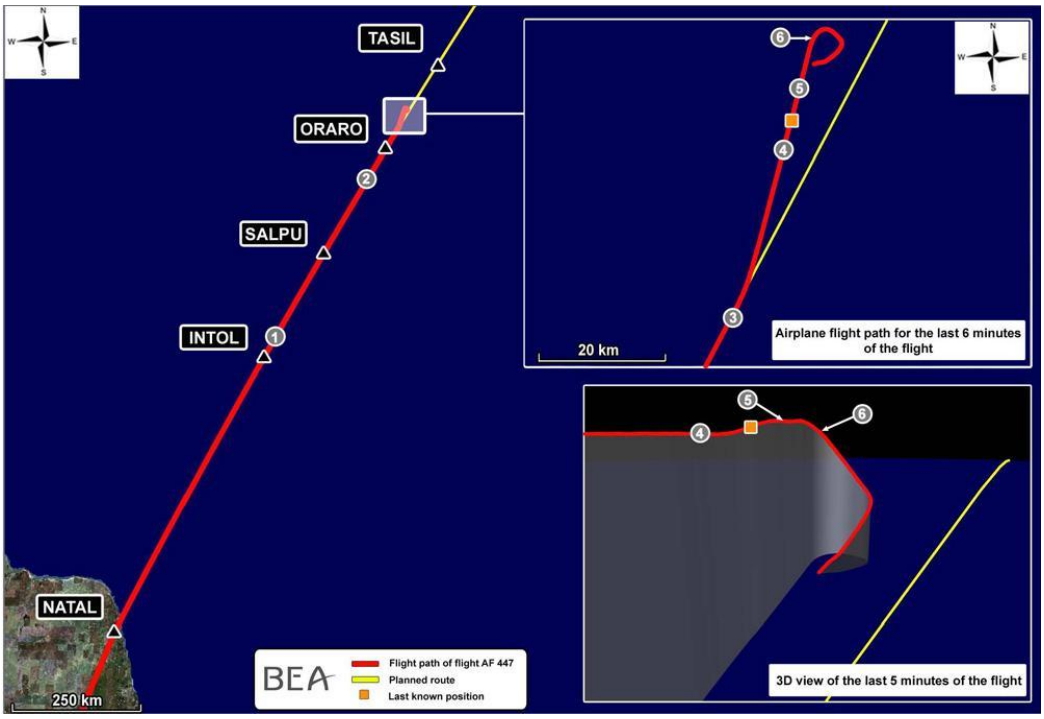
If the Vertical Stabilizer is really needed, it should be located downward under the tail rather than put it up on the top which is above fuselage center of gravity, when the rudder is turned; the plane leans into the opposite direction of turning like cars with front wheel steered. Differently, the plane that built with the fin and rudder downward under its tail will lean to the right direction naturally just like boats or cars with rear wheel steered. Also it should be collapsible when not in used to reduce drag.

We, people should not consider ourselves smarter than Mother Nature: Absolutely not! As we see wings of all kinds of frying creatures in the whole wide world are located on the top of their bodies that make their flights stable and easy to control naturally. But human-designers put the aircraft-wings lower by the fuselage's center of gravity lines those are the pivot points of aircrafts. So the planes can be forced to whirl along with the turbulence easier and once the plane is forced to rotate, the centrifugal force continues rotating just like a bullet leaves a rifled gun barrel or a football is spinning in the air. What does it mean by that?

In the occasion of an airplane encounters bad whether with significant turbulence, the plane is changed its position stronger and quicker; putting confusion to pilots and fail to do the right thing in a limited short time.



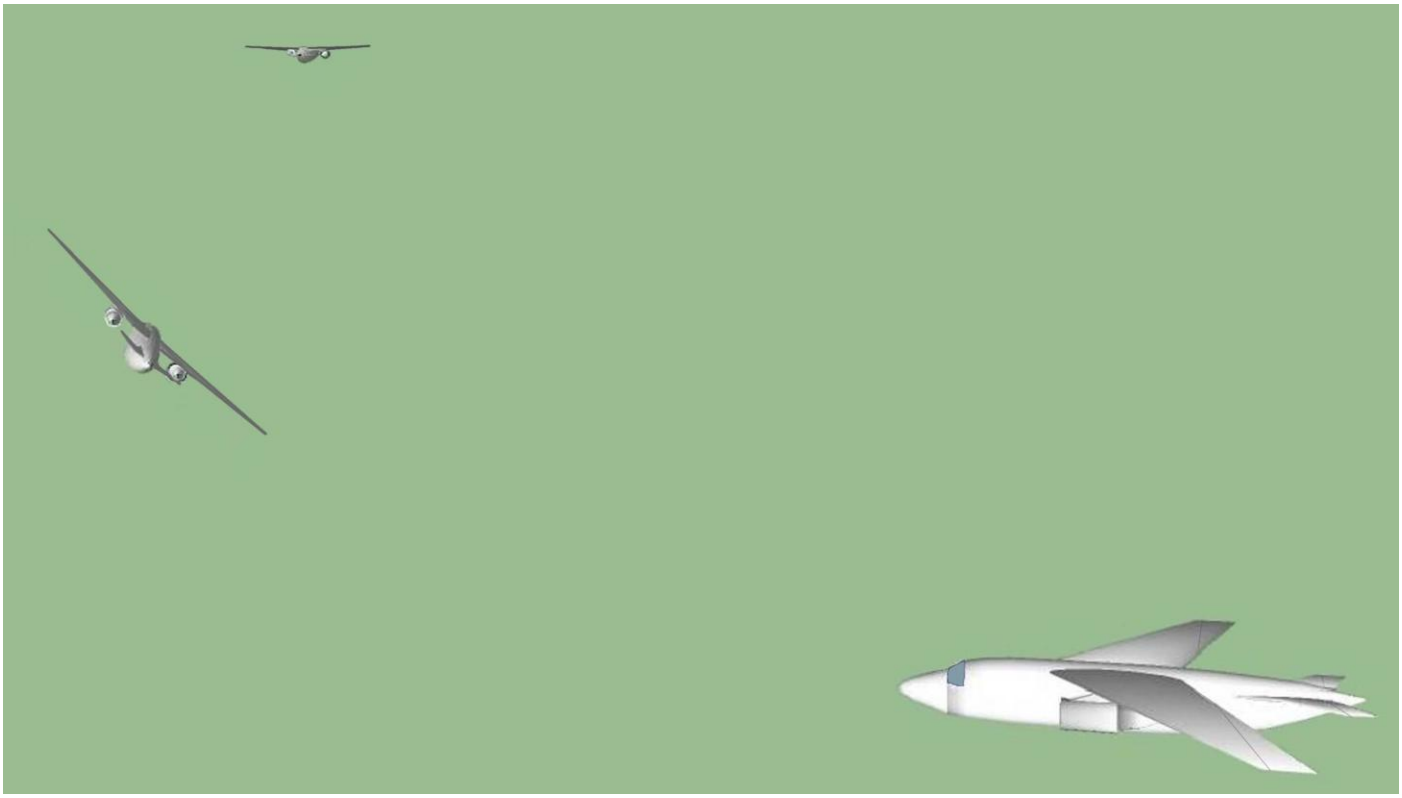
The twisting power of the wind turns the plane out of its position quickly. Since its wings are located at the fuselage's center of gravity plus vertical-stabilizer is an additional surface which catching up the power of the whirlwind. The pilots may be fooling around with the controls those make the plane goes wild easily. Why do we have to take a risk?



The final minutes of Air France flight 447 on June 1, 2009. Published by Bureau d'Enquetes et d'Analyses.

The last minute of the data recorded of Air-France flight 447 accident seems like it had encountered a significant turbulence that blew the plane to the right sharply which caused a dramatic loss of speed then the stall-warning system activated because a loss of speed and did not mean stalled while the plane nose up before it plunged into the ocean. It is more likely, the plane had spun to the right with nose down so pilot tried to pull it up, but nothing much could be done because the plane had loss its traveling speed. In this situation, the automatic systems should put the engines into full power; deploy the expanding wings with alarm warning signal simultaneously to get more control faster. The expanding wings may need to be redesigned to operate faster, flexible or fabric material may be considered.

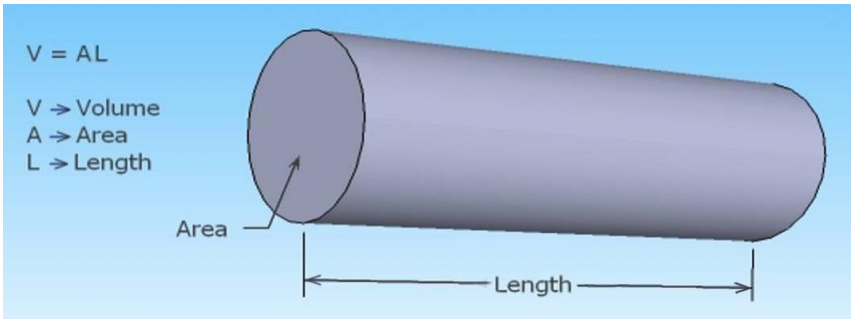
The next drawing: The aircraft that has its wings located at the high point of the fuselage has gravity of the payload helping to resist power of the whirlwind; also eliminating the vertical stabilizer is reducing the surface that catches up the power of the twisting wind; these features together may give the plane a chance to bring back to its position naturally.



I performed my experiments from 1985–1986 all alone by myself. It appears that my discovering turns world's Fluid Dynamics Experts to be indignant as their Father of Fluid Dynamics Bernoulli has been turned Baloney. But this is the way to go. It was just a common human error that happened and we should not continue teaching our kids Untrue Science.

Alternately: As the lives turn! The Old-day's Freshmen have become today's Big Honcho Professors!! They see my idea is **An Old Dog New Trick!!!** After all: **Bernoulli's Principle** is the **Most Famous Human Error Ever!!!**

The following is a simple formula which can be used to solve the problems of fluid in motion:-



Volume = Amount of Flowing Fluid
Area = Cross Section Area of the Vessel
Length = Time X Mean-Velocity

Mean-Velocity is a complexity of:-

1) Fluid's Density/Temperature
2) Fluid's Viscosity/Temperature
3) Motive Force \ Pressure Potential Difference between Locations
4) Elevation of Flow \ Gravity involves
5) Resistance \ Friction between Fluid and Vessel's Surface + Indirectly-flow (bent, angled or zigzagged) which increases resistance due to Kinetic Energy involves

Practically, as today's technology growth; many designs of precise Flow-Meter have been invented and available world wide.

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Believe it or not?

A MOVING FOOT HAS LOW PRESSURE

THE FASTER A FOOT MOVES

THE LOWER ITS PRESSURE