

# GRAVITY'S SHADOW

*The Search for Gravitational Waves*

Harry Collins

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### APPENDIX INTRO.3: ROGER BABSON'S ESSAY, "GRAVITY—OUR ENEMY NUMBER ONE"

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When I was a boy my oldest sister was drowned while bathing in Annisquam River, Gloucester, Mass. Yes, they say she was "drowned", but the fact is that, through temporary paralysis, or some other cause (she was a good swimmer) she was unable to fight Gravity which came up and seized her like a dragon and brought her to the bottom. There she smothered and died from lack of oxygen.

#### What T.B. taught me

When I was a young man I was ill for a year with tuberculosis. I had had a very confining indoors job in a room with no ventilation and, when getting a severe cold at Buffalo, I had not the resistance to throw it off. These were the days before the oxygen tents and I was taken West to high altitudes. When asking the doctors, "Why the high altitude?" they replied, "Because there is less moisture in the air at a high altitude and hence *relatively* more oxygen." They explained how Gravity pulls the moist and humid air down into the valleys and on the low lands in the vicinity of the seacoast. Therefore, to fight this effect of Gravity, I convalesced in the West, but finally settled in Wellesley Hills, Mass. The modern system of rain-making is another illustration of the constructive use of Gravity.

At one time in my career I was indirectly the largest stock-holder in Holtzer-Cabot Electric Company. An important part of this company's work was to make motors used in ventilating systems, especially factories and public buildings. I hence was interested in ventilation. Even before my connection with the Holtzer-Cabot Company, I became acquainted with the owner of the Sturtevant Blower Company of Jamaica Plain, Boston, ~~Ex~~-Governor Eugene Foss. He was an enthusiast on fresh air. This was before the days of air-conditioning. Although he would now strongly recommend air-conditioning for its ability to dehydrate the air, yet even air-conditioning does not give the *air-circulation* which the old blower systems gave. Mr. Foss said to me once: "One of the greatest causes of illness is *bad air* in which people are being 'drowned' as if they were thrown into the ocean. Old man Gravity is responsible." Gradually I found that "old man Gravity" is not only

directly responsible for millions of deaths each year, but also for millions of accidents which Mr. Foss probably had in mind. Broken hips and other broken bones as well as numerous circulatory, intestinal and other internal troubles are directly due to the people's inability to counter act Gravity at a critical moment.

#### **My grandson's death**

The above thoughts had been more or less dormant in my brain until the summer of 1947 when my grandson, Michael, a splendid swimmer of 17 years of age, was drowned in Lake Winnepesaukee, N. H. He was in a motorboat with a party of people, one of whom fell overboard while the boat was quickly turning. Michael immediately pulled off his coat and shoes and jumped in after her. The boat, however, had left the woman several hundred feet behind; hence my grandson was obliged to swim back to find her. He succeeded in getting the woman back into the boat, she is healthy and happy today, but that "dragon" Gravity came up and snatched Michael! He was so exhausted he couldn't fight this force which pulled him to the bottom. In fact, it was five days before his body was found.

There are thousands of such accidents every summer, notwithstanding the fact that most boats carry life preservers which are practical anti-gravity aids. If these would be more freely used, deaths from drowning would greatly be reduced, but most people—especially good swimmers—think it is a sign of weakness or is sissified to use these aids for fighting Gravity. This is a great mistake and should be corrected by all swimming teachers.

Since Michael's death I have become more and more interested in the subject of Gravity. It seems as if there must be discovered some partial insulator of Gravity which could be used to save millions of lives and prevent accidents. In addition it is my belief that someday Gravity will be harnessed to provide a free source of power. For these and other reasons, I am greatly interested in the Gravity Research Foundation.

#### **Importance of air currents**

In closing let me return to the original purpose of this article, namely the factor which Gravity performs in connection with improper ventilation. As Gravity pulls the water-laden and impure air down into the valleys and low spots of the ground, so it holds the stagnant impure air down in the lower portion of rooms, offices, stores and factories. People who are obliged

to spend most of their time in such contaminated quarters, ultimately suffer therefrom. In fact, millions of people finally are "drowned" in this contaminated air through lack of a proper supply of oxygen, due to the fact that carbon-dioxide, a poisonous gas, is heavier than oxygen. Such people do not die all at once as did my Michael when the oxygen was shut off immediately and completely. They die gradually due to an insufficient supply of oxygen over a period of years. Perhaps it would be fairer to say that their health is impaired and their life is shortened by an insufficient supply of oxygen.

We as yet have discovered no partial insulator of Gravity. Therefore we must overcome Gravity by indirect ways like using elevators, life preservers and oxygen tents. For the purpose I have in mind, the quiet electric fan is most useful, especially where air conditioning is unavailable. The electric fan constantly "pushes" the heavy foul air away from our faces. Hence instead of breathing and re-breathing this same impure air in which we are submerged of which the oxygen is constantly being reduced, we are constantly getting a fresh supply.

I am the largest stockholder of the Gamewell Company which has installed more fire alarm systems than any company in the world. From nearly 75 years devoted to the study of fires we learn that most of the "deaths by fire" come not through burning but through suffocation, a form of "drowning." Furthermore, according to J. Wendell Sether of the National Board of Underwriters, a majority of our dwelling house deaths occur upstairs in bedrooms from downstairs fires. When a fire gets underway, super-heated combustion gases ranging from 800 to 1,000 degrees in temperature defy Gravity and quickly flood the upper halls of a house, hotel or office building. These lethal gases enter bed- and other upper rooms through open doors and transoms and asphyxiate the occupants. This means that Gravity can work against us in two opposite ways. Moral: Always sleep with your door and transom closed and depend upon an open window and an electric fan for ventilation.

It is best to live on a hill in a fairly elevated rural section\*; but a supply of fresh air is available in any modern city if it is allowed to enter the rooms. The air in every room therefore can gradually be changed but an

\*As a footnote let me pass along one closing thought: Not only is the rural air purer; but if you are so located that it blows through a pine forest before you breathe it you are very fortunate. The air of the woods is not only pure but medicated. It possesses chemical and/or electrical qualities which are of great value. The ideal sanitarium would be so constructed that the patients would sleep in the forest, but be wheeled out into the sunshine during the day. Piney-woods air, shaded sunlight and sparkling spring water with proper food and rest should cure almost anyone.

electric fan greatly aids this change. Hence the air in the room is less stagnant than it would otherwise be. The great advantage, however, of a quiet, moderate breeze blowing on one's face is that it makes it impossible for us to breathe again the contaminated air that we have just breathed out or exhaled. Many people seem to dread, by instinct, air blowing on their faces; but we should train young children to ask for it. This is one of the aims of the Gravity Research Foundation.