it does not succeed in pushing them up, they are falling all the time. It only succeeds in retarding their drop, so that they fall more slowly than the center of gravity and thus produce the turning effect.

Now when there is no headway it appears that the center of pressure is in the geometrical center of surface. If this is so it follows, that if the center of gravity is displaced from that position, either forward or backward, or to either side, the machine tends to turn over on the heavy side until the center of gravity comes vertically under the center of pressure. With a head-heavy machine the tendency would be to turn completely over forwards until the head points towards the ground, and no front control could prevent it if the machine has no headway. Here lies the danger. It is obvious that we must study the cause of this tendency and combat it if possible. Perhaps a <u>simile</u> may make my position more plain.

Substitute for the center of gravity, the bob of a pendulum; and, for the center of pressure, the axis which supports it.

Now hold the pendulum out horizontally from its point of support and allow it to drop. The pendulum will then turn upon its axis until the bob comes vertically beneath the point of support. No resting place is found until that position is reached.

Now can we prevent this action by giving the pendulum a front control? Prolong the rod of the pendulum as far as