



MY NAME IS SOIL

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This is a satirical poem in which the soil is giving its autobiography on the tests and stresses borne by it during the course of its life. It concludes by thanking his master Dr. Karl Terzaghi who is better known as the Father of Soil mechanics.

Air sustains human life so does water;
Although it is 75%, I form the remaining quarter,
I am the layer of earth which supports plants and structure;
Withstanding the loads whether it is a fracture or rupture,
I am the layer of earth comprising the unconsolidated rock masses;
Degrading the materials except metals , plastics and glasses,
I am the layer of earth resisting the loads through shearing and bearing;
My name is soil and welcome to the world of geotechnical engineering,
At some places I am called black cotton and at others alluvial;
In order to differentiate from air and water, the three phase system is a testimonial,
My world consists of void ratio, porosity and water content;
To measure my weight you can use the core cutter or the sand replacement,
Sieve analysis, coefficient of curvature and uniformity can define my size;

To determine the consistency of clay, atterberg limits can be used to analyse,
Tests like Casagrande's apparatus have been designed to determine plastic, liquid and shrinkage limit;
Mine permeability and compressive strength is worked out with every passing minute,
I may be gravel or sand or silt or a clay;
To classify me you can use USCS, AASTHO or Ind. standards way,
Sometimes I may compress or occasionally I may settle;
Depending on the effective stress, the OCR may be variable,
To study vertical stress, Boussinesq developed his own equation;
Further enhancement was made when Newmark and Westgaard worked out their own relation,
The principal stresses borne by me were determined by Mohr circle;
The normal and shear distribution can be calculated easily if you draw a Mohr circle,
There are moments when I may exert active or passive pressure for a structure to fall;
But luckily safety can be provided using a sheet pile or a retaining wall,
Depending on depth of load transmission, my foundation may be shallow or deep;
But if bearing capacity becomes too high, it may cause me to weep,
I may suffer from high settlement or poor bearing capacity which alters my physique;
To improve my condition you may use stone column, lime soil piles or grouting technique,
For all the recognition I have got, gives me immense pleasure and glee;

I take the opportunity to thank my father for giving birth to me,
He is none other than Karl Terzaghi who is popular as the Father of Soil Mechanics;
Hope his name stays afloat in the sea of Geotechnical engineering unlike the fateful Titanic.

DURVA