The Law of Superposition: The principle that the sequence of observable strata, from bottom to top, reflects the order of deposition, from earliest to latest. (Archaeology: Discovering our Past, Robert J. Sharer & Wendy Ashmore. 1993: 240)

The law of superposition is a geological law but is fundamental to archaeology as well. Like most scientific laws the law of superposition is based on a very simple and fairly obvious premise: all things being equal, lower layers are deposited before upper layers (Sharer & Ashmore, 1993: 240). Try filling in a hole from the top down or building a house starting with the second floor. Under normal circumstances it can’t be done not even by Mother Nature. While the order of deposition of geologic layers (strata) is governed by the law of superposition, outside forces that act on soil and stone strata are not. In other words, the nice, simple ordering of strata from oldest to youngest often is mixed up by forces such as volcanic intrusion, uplifting and folding, cutting through by water and erosion. Sometimes, especially when humans are involved the law of superposition can be turned on its head.

Artifacts and features are what archaeologists look for to understand the people who lived at a site. They are the direct evidence of the things they owned and used, the buildings they lived and worked in and the landscapes they lived on. But as important to the understanding of a site is the dirt archaeologists dig through, referred to as soil layers or soil strata. The sequence of soil layers is known by geologists, archaeologists and soil scientists as stratigraphy, and the recording of stratigraphy is one of the most important procedures in archaeology. An individual soil layer (called a stratum) can, by its color, texture and inclusions, provide information about natural phenomena (floods and erosion for example) and cultural use of an area. Soil color and

Figure 1: SF0020 South Wall Profile
texture can indicate plowing, stripping or filling. The soil
where a post once stood tends to be a different color and
texture than surrounding soil and will retain the shape of
the post. Add the artifact information from a stratum and
a clearer picture can be obtained of the cultural use of a site
and potentially when that use took place.

Basic archaeological excavation techniques and procedures
exist as they do to preserve and record, as best we can the
“sequence of observable strata”. The color, texture and depth
of soil layers are recorded before they are carefully stripped
away. Stripping of soil generally is done by hand using a
mason’s trowel, but when conducted with shovels or even
heavy equipment, the process of stripping and recording of
layers is still necessary. In addition to recording soil layers
while excavating, the archaeologist will photograph and
make scale drawings of the soil profiles visible in each “wall”
of a completed excavation unit (Figure 1) (an excavation
unit is a finite area, usually square or rectangular where
excavation takes place - at the Stoner Farm excavation
units are usually 5 by 5 foot squares). This information is
compared with the soil layer information recorded while
digging to provide as accurate a picture of the soil sequence
as possible.

Sharer and Ashmore (1993: 240) go on to say, “... the
law of superposition refers to the sequence of deposition,
not to the age of the materials in the strata.” In geology
age can be determined by the presence of fossils in the
rock. In archaeology it is determined by the artifacts and
features within the soil strata. That is why soil layers are
excavated separately from one another and artifacts are
bagged exclusively from the stratum they were encountered
in. When a soil layer has been completely excavated, the
artifact containers are closed up with their stratigraphic
information (the excavation unit and soil level designations)
and set aside for washing, cataloguing, analysis and storage.
The stratigraphic information stays with the artifacts
“forever” in the form of labels on the boxes and bags they
are stored in and on the artifacts themselves for those
removed from storage. If artifacts are separated from their
stratigraphic information they become objects with very
little to tell us about the site where they were recovered.
With the stratigraphic information they have the potential
to tell us a great deal about the people that lived at the site.

The pristine sequence of soil deposition described in the law
of superposition, lower layers deposited before upper layers in
a chronological sequence, can easily be disturbed, especially
when people are involved. The natural and cultural forces
that impact the soil deposition at archaeological sites are
referred to as “turbation” and can be anything from erecting
buildings and fences, digging privy holes and graves and
any other human activity requiring digging in the ground,
to disturbance caused by ground hogs, snakes and trees
and natural forces such as freezing, thawing and flooding.
That is why archaeological methods and procedures are
necessary at all times when excavating. Turbation of some
kind is almost always present at an archaeological site
and there are times that the stratigraphic sequence is not
figured out until all the pieces are put together including
stratum descriptions and depth measurements, measured
drawings and photographs, and artifact and
feature information. Once figured out, the
stratigraphic sequence can tell us not only
about the age of a site, but how long it was
occupied and the changes it went through
over time.

I was inspired to write this article by what
we learned this field season as a result of
stratigraphy. Analysis is far from finished so
we cannot say for sure, but it appears we may
have located what we are calling the Steiner
period of occupation (Johannes and Catrin
Steiner - 1740s to 1760s) at the bottom of
a relatively deep and somewhat complex
stratigraphic sequence. Without taking
the time to follow proper archaeological
procedures with regard to stratigraphy
Johannes and Catrin would have been lost
(Figure 2).
Stratigraphic Sequence from Figure 3
(starting at the top, the way it was excavated):

- **Ground Surface**: the present surface of the David Stoner House yard - 20th and 21st century
- **Present Topsoil and Gravel**: most recent topsoil deposition with layer of gravel beneath. The gravel layer is present in many locations throughout the yard and is known to date to the 20th century.
- **“Yard”**: Below the gravel is a soil stratum containing a mixture of 19th century artifacts, mostly from the middle to late 19th century. Appears to be from 19th century David Stoner House “yard”.
- Below that are soil strata containing artifacts mostly from the late 18th to early 19th century including.
- **“Yard”**: another probable yard layer earlier than above.
- **Stone Rubble**: a stratum with stone fragments, the origin of and reason for we are not sure - possibly from destruction of the Early Stoner House or renovation of the David Stoner House.
- **Fill**: a layer of clay fill most likely deposited during conversion of the David Stoner House from a milk house.
- **Topsoil**: Below the fill we encountered a dark topsoil stratum containing some of the earliest artifacts we have found to date - early to mid 18th century.
- **Feature Fill**: Below that are pit and post features containing similar artifacts to the topsoil above.
- **Subsoil**: Solid yellow, sterile (no artifacts) clay.