description of your lectures on physics, in your last
letter, by using the word "paralyze" as synonymous
with polarize. The theory of polarization we have
to have at our fingers' ends. You know that topaz
and most other crystals polarize the light that passes
through, and also give it different velocities, accord-
ing to its direction, so that the refraction is different.
I have been working at cutting a prism which has its
edge parallel to the macro axis of the crystal. It is
done by cementing the crystal to a piece of glass the
size of your palm, in the proper position, and then
rubbing it on a glass plate covered with emery. On
hard minerals it is a slow and not very easy process.
As I am getting up my triceps, rubbing away, I sud-
denly discover that it is past twelve, and I must skip
up stairs to another lecture.

The first was on minerals in the mass; the second
is on them as individuals. The lecture goes on
much as the other,—save that as from one to two
there are no lectures, the Professor is inclined to
round out the lecture at the expense of the next
hour.*

After this, we scatter from the laboratory to our
midday meal, crying, "Mahlzeit" as we leave. I go
only a little way off, "Zum Goldner Römer," where,
with some other students, I eat my soup, beef and
pickles, potatoes and cake, and talk, or read the little
German papers, which contain about as much news
as a quarter of a Record, and can be read between
drinks. Then back I saunter to the laboratory and
finish making my prism, and proceed to measure the
index of refraction in the dark room by the ghastly
light of a mono-chromatic sodium flame; or perhaps
some of my H Fl. solutions are dry, and I examine
the crystals left under the microscope.

Perhaps you may not see the connection between
my prism-grinding and microscopic work. Well, the
chief, practical end which my work has, outside
purely scientific ones, is to solve the problem: Given
a rock, an aggregation of minerals in often micro-
scopically small grains, of what is it composed?
One of the ways of determining this is through the
optical properties of the minerals when viewed in
their sections, for not only the color but the refrac-
tive power, the crystals' form, and many other char-
acteristics can be so determined through polarized
light.

Now, our Professor—as it seems to me very
wisely,—first gives us work on the properties sepa-
rately, so that we thoroughly understand a mineral
and its optical properties, before beginning its micro-
scopic study. Don't think, however, that we do not
use chemistry. That chemical laboratory isn't for
show; there is always some one there. But chem-
ical methods are used as a last resort for qualitative
work, and are mainly reserved for quantitative deter-
minations. The blowpipe tests, too, of which I used
to hear so much at Harvard, are here scarcely men-
tioned, although there is a continual reference to
their composition in classifying minerals.

About four it grows dark here, but the gas is
lighted, and we work on till six; then home, and
study 'til half past seven, when we have a hearty
supper. Just now my evening work is mainly draw-
ing crystals; and if you want to find ample employ-
ment for all the most ponderous English and German
adjectives in your vocabulary, you try to draw a
quartz crystal, with half-a-dozen rhomboidra and
trapezoidra!

Wednesday night we have a "colloquium," like-
wise a "Nach colloquium." That is to say, about
six o'clock the Professor comes from his private
room into the laboratory, if not already there. We
gather around the table and give each other accounts
of the latest publications in our department of
knowledge, which have been divided around among
us for that purpose. The Professor makes his com-
ments, and the thing often ends in a lively discus-
sion, which is great fun.

As we are not through till past eight, and have all
missed our suppers, we go off together to dine at the
sign of the Grüner Baum, and afterward drink beer
and sing student songs until a late hour. I once
asked a Docent who comes with us, how late students
generally studied; at which he laughed, and replied
that they generally sat up till one or two, but didn't
usually study in the evening much. Of course we
we were talking about the working students, not the
corps students, who fight the duels. They never
study at all the first few terms; but they stay here
five years.

There is a general idea that Germans are very
thorough, and know more than other nationalities.
If so, it must be in the training in Gymnasia, for the
University men seem to behave very much as similarly
placed men in America. There is only one other
theory that suggests itself; viz., that beer and tobacco
stimulate the intellect.

For my own part, I am glad I came here. There

* This custom is said not to be distinctively German.—Ens.