will include a professor, an assistant, technician and clerical assistants. According to the dean, the new department "promises to greatly enhance the usefulness of the college of medicine in scientific and clinical medical fields." The college of medicine is the oldest unit of the Ohio State University.

THE New York *Times* writes editorially as follows: "To further the interests and usefulness of science the Association of Scientific Workers was organized in Great Britain two years ago. Small though it be, the association has made its influence felt on both Lords and Commons. Major Arthur Church, its energetic secretary and a doctor of science himself, stood for the House, was elected and promptly proceeded to organize no fewer than seventy of his fellow-members into what is merely the nucleus of a parliamentary science committee through which the association will endeavor to apply science in the service of the empire. Far from being an upstart, the parliamentary science committee, like most things British, has a respectable ancestry. Until 1866 the British Association for the Advancement of Science championed the cause of the physicist, biologist and chemist through a small parliamentary committee and thus succeeded in improving navigation and the weather-forecasting service; determining the conditions under which civil list pensions were to be awarded to scientists; raising the standard of scientific teaching; furthering the exploration of Africa by Livingstone, Speke and Grant, and inducing Tyndall and Huxley to express their opinions on the best method of introducing physical science into the curricula of the public schools. The example thus set may well be considered by Congress and American men of science. No government in the world conducts so much industrial and purely scientific research, through its bureaus, as ours. Yet the scientist plays no conspicuous part in our legislative halls."

DISCUSSION

THE PROPORTIONS OF THE GREAT PYRAMID OF GIZEH

IN a recent most interesting address on "Mathematics before the Greeks,"[1] Professor Archibald incidentally enumerates various "mystical" interpretations of the proportions of the Great Pyramid. This reminded me of an explanation suggested by the photograph which hangs before me in my office.

Whatever the reason for the choice of dimensions, the proportions seem artistically perfect. Is this a delusion due to familiarity or is there a mathematical basis for such a conclusion?

The apparent angle φ between the opposite inclined edges of a pyramid varies, as the spectator travels around the pyramid, from $2\tan^{-1}(d/h)$ to $2\tan^{-1}(.707\ d/h)$, where h is the height and d is half the diagonal of the base. Now the dimensions of the Great Pyramid are such that the ratio of the apparent width of the base ($2d\cos\theta$) to the height varies from a maximum of 2.222 to a minimum of 1.572. If these values are plotted as a function of the angle θ, the average value is exactly 2, which is the value which corresponds to a right triangle. This means that if the pyramid were rotated in front of a distant observer, the apparent angle between the opposite edges at the apex would vary between 96° and 76.3°, but the average value would be the angle 90°. This follows mathematically from the fact that the ratio of h (481 feet) to d (534.4 feet) is exactly the ratio of $\sin\pi/4$ to $\pi/4$, that is 0.900.

Now let us consider the vertical section of the pyramid perpendicular to two faces, the section any architect would draw. According to the Encyclopaedia Britannica, the angle between each face and the base has the following values, for the four pyramids of Medum and Gizeh.

	Name	King	Angle
1.	Medum	Sneferu	51° 52′
2.	Great Pyramid of Gizeh	Khufu	51° 52′
3.	Second " " "	Khafra	53° 10′
4.	Upper " " "	Menkaura	51° 10′

Why did the architect in each case choose an angle of about 52° instead of 45° or 60°? It is an interesting fact that for a right triangle having a lower angle of 51° 49.6′, the height is the geometric mean between the base and the hypothenuse, that is, the ratio of hypothenuse to height is equal to the ratio of height to base, giving a right triangle with perfect proportions. In the case of the first two pyramids the angle approximates this ideal angle within one part in a thousand. However, the fact that the third and fourth pyramids depart from this angle, one being slightly more and the other slightly less, suggests that the design was not controlled entirely by a mathematical formula, but was subject to modification according to artistic judgment, which, however, oscillated about the value given by the formula.

GORDON S. FULCHER

CORNING GLASS WORKS

THE NEW MADRID EARTHQUAKE—AN UNPUBLISHED CONTEMPORANEOUS ACCOUNT

I RECENTLY came upon the following record of observations of the New Madrid earthquake in an old

[1] SCIENCE, 71: 115, January 31, 1930.