DISCUSSION

RELATIVE TO THE EXPRESSION "LINE CONTOUR"

ONE reads frequently in the current literature of spectroscopy of "line contours," the intended meaning of the term being, apparently, the intensity graph taken across a spectral line, or, in other words, a small part of the spectral energy curve in the immediate vicinity of the "line" or radiation in question. Inasmuch as technical usage, especially in engineering practice, has endowed the term "contour" with a special connotation of sustained equality, as, for example, in its specific application to lines of equal elevation on a topographic map, the use of the term to designate precisely *what this is not* would appear to be unfortunate.

The word has of course, in general speech, a wide meaning which is not subject to the limitations imposed by technical usage. Thus the Century Dictionary quotes Dr. Oliver Wendell Holmes in illustration: "All her contours and all her movements betrayed a fine muscular development." There is here no implication that horizontal curves only are to be considered, in fact the imagination is left free to engage itself with deflections in all directions, and it would appear permissible to speak metaphorically of the contour of a spectral line in much the same way that we refer directly to that of a body or of a feature of the landscape; but such greater latitude in the meaning of the word when employed in general speech can hardly be taken to justify its technical, and presumably exact, restriction to uses in two conflicting senses. It would seem necessary for the spectroscopist to respect the unquestionable priority of the engineer.

If we were to take over, for the description of a spectral line, the term "contour" in its engineering sense, the "contours" would be points, since the energy curve has but one horizontal dimension. The term "profile" might be appropriated with perfect consistency, since it relates to a vertical section, whose purpose is to show differences in level, and the word has in fact been drafted by Italian spectroscopists (*e.g.*, "Sul profilo del tripletto del magnesio," etc. Publ. della R. Univ. degli studi di Firenze, 48; 28, 1931). A number of other expressions are available, but the actual employment of the term "profile" in one and perhaps more of the principal languages would suggest the propriety of its use in English.

One may perhaps be permitted the reflection that a generation ago the word "contour" would probably not have been adopted by physicists or astronomers to signify something that goes up and down. The apparent readiness with which it is being accepted is perhaps illustrative of the drift of physical science from the influence of engineering, obvious to most of us, and recently remarked by Sir James Jeans ("The Mysterious Universe," p. 19). Is it too late for spectroscopists to select an expression for a simple intensity graph that would conform, or at least not be in conflict, with simple and well-established usage?

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"STRATH" AS A GEOMORPHIC TERM

IN a recent number of SCIENCE, (August 14, 1931, pp. 172–173) F. Bascom proposes the word "berm" as a collective term. It is to include all terraces in stream valleys and on lake and sea shores which owe their origin to relative uplift and dissection of planation surfaces; lateral planation by streams on the one hand and planation by waves on the other.

The purpose of this note is to call attention to an anomalous circumstance. Applying the word "berm" to stream valleys is giving a name to the erosion remnant of a geomorphic feature for which in its original, uneroded condition no technical term exists. The flat bottom of a stream valley produced by degradation has no technical name to distinguish it from one produced by aggradation.

For the lowland which commonly adjoins the low-water channel (or "bed") of a stream we have the word "flood plain." But, as used, this word includes both lowlands formed by cutting away and by filling up ("degradational" and "aggradational" surfaces). The two might be distinguished as "stream-cut"[1] and "stream-filled" flood plains.[2] The latter expression is identical with "alluvial plain" and is therefore not needed. The former, on the other hand, would be inadequate. "Stream-cut flood plains" grade imperceptibly into flat valley bottoms of greater width, often spoken of as "incipient peneplains." These can not have been formed solely by lateral stream-cutting. They may owe their origin to a weathering back of the valley walls after the fashion of other erosion scarps. In fact, the writer knows of no reason why the same process that causes an erosion escarpment to retreat, with no stream running along its foot, should not also produce a recession of valley walls. Whether this inference be justified or not, the fact

[1] Disregarding the veneer of gravel and mud which inevitably covers a stream-cut flood plain.

[2] "Aggraded valley-plain" of C. A. Cotton, who defines "valley-plain" as "a continuous flood-plain." ("Geomorphology of New Zealand," Wellington, N. Z., 1926. Pp. 113 and 197).